Bribery & Business
A world report on business ethics—p 16

O.S.

International Management Digest®

MARCH 1960
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THE McGRAW-HILL PUBLICATION OF WORLD BUSINESS INFORMATION

THE ABC OF SOUTH AMERICA

PAGE 13

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INTERNATIONAL
MANAGEMENT'S

American Letter

Dear Sir: March, 1960

"PLENTY OF ABRAZOS, BUT NO NEW MONEY." This is the prevailing, if cynical, view of President Eisenhower's trip to South America. It is correct to this extent: The visit is no more, no less, than an effort to create a climate for closer U.S.-Latin cooperation. Washington wants to show support for President Kubitschek's "Operation Pan America" approach to development. And it wants to blunt the influence of "Castro-ism," and of Communist trade offers.

Though no important new policies are expected this year, Washington is becoming more sensitive to inter-American problems. Kubitschek's "Pan America" machinery is beginning to work, especially in technical assistance. Talk of commodity price stabilization no longer draws such angry looks from Washington. And the government endorses a slowly rising level of lending to Latin America.

Meanwhile, the Washington minority insisting that the U.S. "do more" is both vocal and more numerous. Rockefeller, Milton Eisenhower, and congressional reports on Latin America have had an impact. Some leading members of the opposition Democratic Party are becoming impressed with the "do more" argument.

THE CONCEPT OF A PAN AMERICAN ECONOMIC UNION IS NOT AS DEAD AS IT SEEMS. Late last year, Nelson Rockefeller suggested a long-term effort toward a hemisphere common market. The idea has stimulated new thinking and debate, and appeals to those who say the Americas must work more closely together, especially in the face of European and other regional trading arrangements.

Opposition to the idea is strong. It argues that hemisphere preferences would reduce U.S. flexibility in fighting trade discrimination elsewhere, and would drive African nations into a tight Euro-African bloc. Besides, they might increase U.S. market domination of the Americas. But there is this to consider: In years to come, some kind of freer trade may link North America and European industrial lands. If that happens, the U.S.A. must extend special advantages to Latin America.

* * * *

THERE IS NO DENYING THAT INDIA HAS BECOME THE FOCUS OF U.S. AID THINKING. Washington hopes to increase aid to India by at least 50% (more for Pakistan, too), and rally massive Western support for India's Third Five Year Plan. Also, agreement on development of the Indus River by the two nations will assure even more funds. The argument runs that India is doing better, and may be trembling on the brink of the crucial "take-off" point in its development. Washington is convinced that the challenge is of a different order of magnitude from that of Latin America.

For one thing, the Americas are not so menaced by chaos, poverty, or the example of Communist China. For another, Washington believes private capital can do more in Latin America, while India must depend more heavily on public funds. Many Latin Americans disagree with this argument, as they do with the common assumption that Latin American development would move faster if nations there put their internal economies in better order (page 13).

American Letter

PRICES OF MOST COMMODITIES WILL RISE ONLY SLIGHTLY THIS YEAR, IF AT ALL. In the U.S.A., inventory-building may be stretched over the entire year. Also, ample supplies and price stabilization programs should keep quotations of sensitive commodities moving within a narrow range. Here is a brief round-up:

COPPER: Price may hover around the 33 to 35-cent a pound level for the short term. Although demand will increase during 1960, producers will have to watch output carefully to keep prices from falling below the 30-cent mark when all strikes in the industry are settled. And production cuts may be needed later.

ALUMINUM: Competition among producers will get hotter, especially in underdeveloped areas. Relatively cheap price (it could rise slightly) will assure a steady advance in demand in large industrial countries.

STEEL: U.S. output will soar to 70-million ingot tons in the first half. But as inventories are rebuilt, output may decline to 60-million tons or below in the second half. U.S. prices are not expected to rise until December 1. And premiums paid for European and Japanese steel in the American market will dwindle further. Indeed, some foreign steel is being unloaded at a discount.

COFFEE: The International Coffee Agreement is firming prices. But this could bring a false sense of security. Expanding world production threatens price stability since producers are reluctant to restrict output. The surplus could rise to 100-million bags by 1964/65--enough to supply world coffee-drinkers for two years.

COCOA: A huge quantity of cocoa is hanging over the market; the surplus now is estimated at 100,000 tons. Current production estimates reach a record 940,000 tons. Though consumption is expected to rise, it's a slow process, with not much help to prices now.

SUGAR: World crop for 1959/60 is estimated at 63.7 million tons, down 2% from a record the year before. Price weakness of "world" sugar has continued into 1960, and burdensome stocks could keep prices low. Sugar Council reduced quotas to restrict "free" supplies and bolster market. Though Cuba's political uncertainty worries the trade, Washington will stand by its promise not to cut Cuba's quota of U.S. sales.

COTTON: Trade will continue to pick up after a two-year decline. Total exports for 1959/60 may exceed 15-million bales, up 15% from previous marketing year. American exports will rise to six-million bales by July 31, then taper off with a price decline of about two cents a pound.

WOOL: Consumption, rising steadily for past few months, may now be leveling off, especially in the U.S.A. Prices should remain fairly firm.

RUBBER: World production of synthetic rubber will exceed that of natural rubber this year. Both the U.S.A. and Britain are releasing natural rubber from stockpiles; Russia is moving 45,000 tons to supply other Communist countries and in London and Singapore traders are awaiting renewed buying by Moscow and Peiping. Yet no violent upswing in natural rubber prices is expected. Cost of synthetic rubber remains steady.

NOTE HOW ROYAL DUTCH SHELL HAS MOVED INTO THE METHANE BUSINESS. After long study, Shell acquired 40% interest in Constock International Methane Ltd., the company that made news shipping liquefied methane gas from the U.S.A. to the British Gas Council (IMD-Dec.'59). With Shell's huge market system, methane can move fast.

It should win rising favor as a fuel for cooking and specialized industrial uses in many countries (Constock has hopes for Germany, France, as well as Britain; Scandinavia, Italy, and Japan are considered good potential). But discount optimistic talk that methane-by-tanker will revolutionize world energy markets. While Constock's costs are confidential, outsiders guess that it is much more expensive to ship liquid methane than its energy equivalent in oil. Thus methane may be able to serve only as a premium fuel--especially in fuel-glutted Europe.

Note too that part of liquefied methane's advantage now rests on extremely low prices at the well-head, where it is virtually a waste product in many areas. That price structure might not last if producing countries found methane beginning to compete with their own crude petroleum.

* * * *

LEASE FINANCING IS GROWING FAST, IN THE U.S.A. AND ABROAD (page 15). This technique of capital-goods financing will account for over $2,000-million in the U.S. this year. That is in spite of a tax ruling that down payments and options-to-buy, typical of most lease-financing operations, in effect turn leases into sales contracts--thus disallowing deduction of rental payments as a business expense. To meet this objection, one large U.S. machine-tool maker (Jones & Lamson) has just introduced a lease plan with no down payment or option clause.

Few people appear too concerned about the tax problem. New leasing companies, tapping new sources of funds, are pouring into the market. The latest companies to form industrial equipment leasing subsidiaries are Tishman Realty Co. of New York and the giant Hertz Corp., world-wide car and truck rental firm.

* * * *

NEW & NOTEWORTHY: A small (about 2kg.) 8-mm. movie camera with self-contained simultaneous sound recording comes from Fairchild Instrument & Camera Corp., Syosset, New York, U.S.A. It has a constant-speed motor, a 5-transistor amplifier powered by a rechargeable battery. About $240.

Hydrometals Inc., New York, N.Y., adds titanium and copper to zinc for a versatile new alloy that is stronger, harder, resistant to corrosion, deformation, heat. Called Hydro-T-Metal, it has promise as a structural material.

A 6-transistor amplifier and extremely compact design makes possible a tiny colorimeter, 7.5 x 12 x 2.5 cm. Pyror SA, Carouge-Geneva, Switzerland.

Nurses at a central station can observe patients' temperature, respiration, heart sounds and cardiograms--and watch each bed via TV--with a sensing and signalling system by Gulton Industries, Metuchen, N.J., U.S.A.

NEED A PART-TIME BOARD OF DIRECTORS? Six business executives in Brazil have come up with a fresh idea in management consulting, designed to assist foreign companies set up shop in their country. They call themselves Associated Professional Administrators (Rua Marconi 107, Sao Paulo) and they offer advice on the suitability of an investment. They will also help plan it, find local partners and executive staff, advise on site, production, marketing, even help run it. It is all top-level policy work--no legal, engineering, finance services as such.

Four Brazilians, an American, and a Netherlander are involved. All are managers and directors of Brazilian organizations. Their consulting will be part-time, and they say APA will not take on a job if there is the chance of conflict of interest between any in APA and a prospective client.

* * * *

Another corner in commodities? Mexico's entire 1960 "crop" of jumping beans (a tiny worm makes them jump) has been spoken for by some ingenious U.S. businessmen. They made a killing last year, and hope to repeat it, selling them as novelties: Four beans in a plastic box, with a printed "race track," for 50 cents.

* * * *

A QUICK REVIEW OF EXCHANGE, CREDIT, AND BUSINESS CONDITIONS

Country	Exchange Rate (units per $1, New York)			Government Reserves (gold & foreign exchange, millions)		Dollars in U.S. Banks	Conversion Delays / Collection Experience		Business Conditions
	5 Feb. 1960		5 Jan. 1960	latest month	year ago	(Millions)			
Argentina	82.75	Peso	82.50	$ 221.0	$ 177.0	$ 310.0	2 Mos.	Fair-Good	Improving
Australia	• 2.23	Pound	• 2.23	1,157.0	1,120.0	114.0	None	Very Good	Good
Austria	25.65	Schilling	25.65	678.0	684.0	364.0	None	Good	Good
Belgium	50.00	Franc	50.00	1,211.0	1,408.0	132.0	None	Very Good	Improving
Bolivia	12,000.00	Boliviano	12,000.00	8.7	6.6	22.5	4 Mos.	Poor-Fair	Poor
Brazil	182.00	Cruzeiro	190.00	455.0	478.0	140.0	3 Mos.	Good	Improving
Canada	.9520	Dollar	.9546	1,877.0	1,920.0	2,328.0	None	Very Good	Improving
Chile	1.05	Escudo	1.05	105.2	69.1	139.4	2 Mos.	Good	Improving
Colombia	6.75	Peso	7.01	196.0	181.0	215.0	2 Mos.	Good	Improving
Costa Rica	6.67	Colon	6.67	13.5	24.60	24.5	1 Mo.	Good	Improving
Cuba	1.25	Peso	1.25	294.0	429.0	168.0	3-12 Mos.	Poor-Fair	Poor-Fair
Denmark	6.80	Krone	6.80	313.1	259.5	122.3	None	Very Good	Good
Dom. Rep.	1.00	Peso	1.00	37.8	44.3	40.8	None	Good	Improving
Ecuador	16.67	Sucre	16.67	39.8	34.8	17.4	1 Mo.	Fair-Good	Improving
El Salvador	2.50	Colon	2.50	37.7	38.2	26.5	1 Mo.	Fair-Good	Improving
Finland	312.00	Markka	335.00	315.6	281.2	81.1	None	Good	Improving
France	4.95	†Franc	4.95	1,720.0	1,200.0	903.0	None	Good	Good
Germany	4.17	D-Mark	4.17	4,779.0	5,625.0	1,680.0	None	Very Good	Very Good
Greece	29.41	Drachma	29.41	202.8	198.0	191.5	1 Mo.	Fair-Good	Improving
Guatemala	1.01	Quetzal	1.01	35.8	49.3	35.7	1 Mo.	Good	Improving
Honduras	2.00	Lempira	2.00	13.0	11.3	6.3	1 Mo.	Fair-Good	Fair
India	6.67	Rupee	6.25	695.0	694.0	115.0	1 Mo.	Good	Fair-Good
Indonesia	200.00	Rupiah	200.00	301.0	238.0	126.0	3 Mos.	#L/C Basis	Poor
Iran	76.92	Rial	76.92	213.0	228.0	24.0	3 Mos.	Fair-Good	Fair-Good
Iraq	• 2.70	Dinar	• 2.70	314.9	337.0	18.0	2 Mos.	#L/C Basis	Fair
Israel	2.50	Pound	2.50	116.7	116.6	81.2	1 Mo.	#L/C Basis	Good
Italy	621.00	Lira	621.00	3,116.0	2,429.0	1,523.0	None	Very Good	Good
Japan	392.00	Yen	392.00	1,105.0	939.0	1,215.0	1 Mo.	Good	Good
Mexico	12.35	Peso	12.35	385.0	402.0	420.0	None	Good	Improving
Netherlands	3.77	Guilder	3.77	1,355.0	1,420.0	428.0	None	Very Good	Good
New Zealand	• 2.63	Pound	• 2.63	216.0	231.0	7.0	None	Very Good	Good
Nicaragua	8.00	Cordoba	8.00	9.40	19.5	11.3	None	Very Good	Good
Norway	7.14	Krone	7.14	242.4	227.8	97.9	None	Very Good	Improving
Pakistan	5.88	Rupee	6.67	194.0	157.0	6.0	2 Mos.	#L/C Basis	Improving
Panama	1.00	Balboa	1.00	45.7	52.3	142.5	None	Very Good	Improving
Peru	27.77	Sol	27.77	55.4	28.9	88.3	1 Mo.	Good	Improving
Philippines	3.57	Peso	3.57	89.0	78.0	179.0	1 Mo.	#L/C Basis	Fair
Portugal	28.17	Escudo	28.17	809.0	736.0	138.0	1 Mo.	Very Good	Good
South Africa	• 2.76	Pound	• 2.76	427.0	329.0	51.0	None	Very Good	Improving
Spain	60.25	Peseta	60.40	54.0	57.0	79.0	None	#L/C Basis	Improving
Sweden	5.17	Krona	5.17	418.0	478.0	243.0	None	Very Good	Good
Switzerland	4.33	Franc	4.33	2,052.0	2,046.0	902.0	None	Very Good	Very Good
Turkey	12.50	Pound	12.50	269.0	326.0	34.0	12 Mos.	#L/C Basis	Fair
U. A. R.	• 2.15	Pound	• 2.00	397.00	436.0	18.0	3 Mos.	#L/C Basis	Poor-Fair
U. K.	• 2.8030	Pound	• 2.80	2,685.00	3,110.0	957.0	None	Very Good	Very Good
Uruguay	11.11	Peso	10.81	180.0	180.0	68.0	None	Fair	Improving
Venezuela	3.34	Bolivar	3.34	776.0	1,151.0	251.0	1 Mo.	Fair-Good	Fair

*U.S. Dollars per Pound. #Most Exports by Letter of Credit † Nouveau Franc

The Editors

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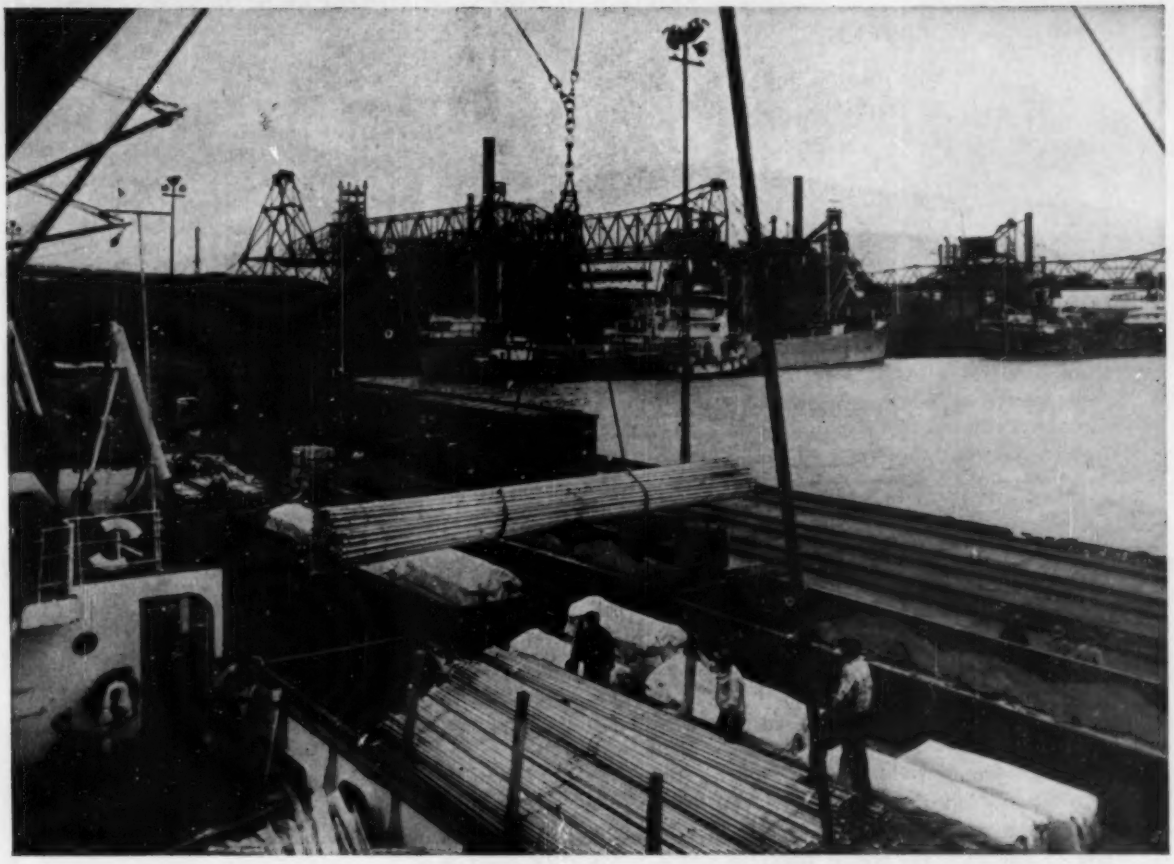

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STOKES

● THE READERS' PAGE

Apology to CEI

Sir . . . As regular subscribers to and readers of INTERNATIONAL MANAGEMENT DIGEST, my colleagues and I have admired the way your article entitled "What Kind of Business Education?" (September, 1959) appears amazingly well informed on business and management education in Europe. What struck me most was the deep insight your correspondent has of the trends in management education both in Europe and the U. S. A.

We could not, however, refrain from smiling at the contrast between the depth of knowledge evidenced by the article and the complete ignorance, also evidenced by the article, of our International Management Institute, the C.E.I., connected with the University of Geneva and today in its thirteenth year of operation. The International Management Institute has been a forerunner of all European management schools operating a long-term type of course.

In view of the above contrast, we took the liberty of giving a wide circulation to your article and expect to peruse it as a classic.

Paul M. Haenni
Director
Centre D'Etudes Industrielles
Geneva, Switzerland

● We apologize—not for our ignorance (we were very much aware of CEI) but for our carelessness (which is worse) in not mentioning its pioneering work.—EDITOR

С ЩЕПОТКОЙ СОЛИ*

Sir . . . In the Editor's Page of your December issue, "Things to Come," you have written that "the following predictions . . . should (according to the old proverb, probably Russian) be 'taken with a grain of salt' . . .".

Your predictions are very interesting indeed, but I would like to say a few words on the "grain of salt." We Italians usually say *cum grano salis*, in Latin words. I have found out that these words are a quotation from the "Historia Naturalis," book XXXIII°, by Plinius the Elder, a famous Roman officer, scientist and historian, born in the year 24 after Christ; killed in the Vesuvius eruption. In those times, Rome was the master of the world, and Russian civilization came many centuries later.

But why the "grain of salt?" During the Catholic baptism, some grains of salt are introduced into the infant's mouth, with the words "accipe salem sapientiae"—accept the salt of wisdom. Salt, like wisdom, gives flavor to everything: and salt stands for wisdom.

Ing. Carlo De Mari
Milan, Italy

* "With a pinch of salt"

● To take a statement "with a grain of salt" suggests that one should not accept it at face value, but modify it with one's experience and one's awareness of the context in which it was uttered. Our December "Predictions" were offered in that spirit. As for the Russians, we in America had been recently exposed to Mr. Khrushchev, who seemed to be trying to bury us under a stream of "old Russian proverbs." Many of them sounded familiar, echoes from phrase-makers ranging from The Prophet (and Pliny, too) to Mark Twain. As the Russians say, "plus ca change . . ."—EDITOR

Which Peso?

Sir . . . I have been reading your publication for a long time and I had always considered it very interesting. But after reading the chart titled "A Quick Review of Exchange, Credit, and Business Conditions" contained in your December issue, I have begun to doubt your accuracy.

Referring to Cuba, you report an exchange rate of $1.25 peso for each dollar, and it is not true. Payments for importation goods are based on a rate of One Peso for One Dollar plus 3% of tax and expenses, never 1.25.

Guillermo Fernandez
Prosapel, S.A.
Havana, Cuba

● The rates listed represent the buying rate prevailing at the time in the New York free market, rather than the official rate. Foreign exchange traders, both here and abroad, recently have been discounting the peso by as much as 30%—EDITOR

Digestible

Sir . . . It is our wish to take this opportunity to compliment your company for a truly perfect, useful, and far from dull publication. It is amazing how you can convey the most indigestible facts, such as business, figures and statistics, economics, in such an easy-to-read, even appetizing manner.

Aldo D'Eliso
General Manager
Camexco & Co.
Trieste, Italy

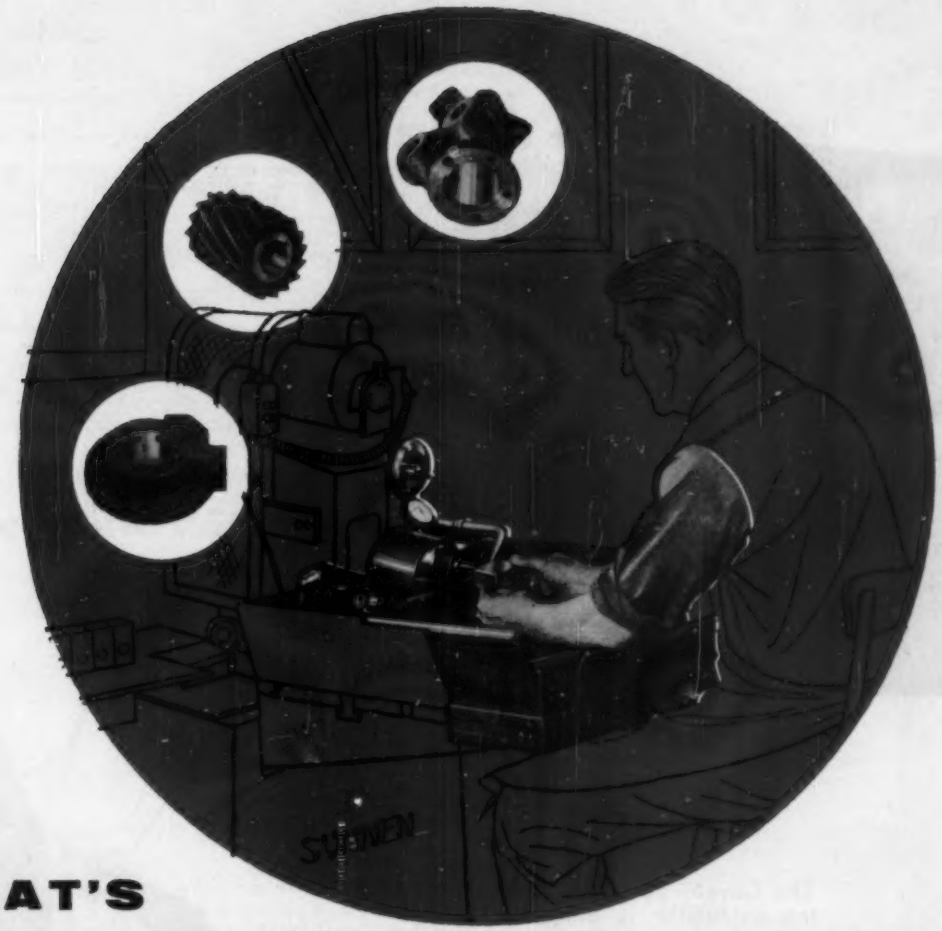
Look Again

Sir . . . I would like to congratulate you on the outstanding performance you realize each month by IMD's useful and interesting contents.

Knowing on the other hand that you receive with pleasure suggestions on improving its presentation, may I add that I think it would be better for you to have your American Letter typed not by a normal typewriter but by an IBM machine with mid-century type.

Georges Rona
Brussels, Belgium

● Look again. It's IBM, standard-elite!—EDITOR



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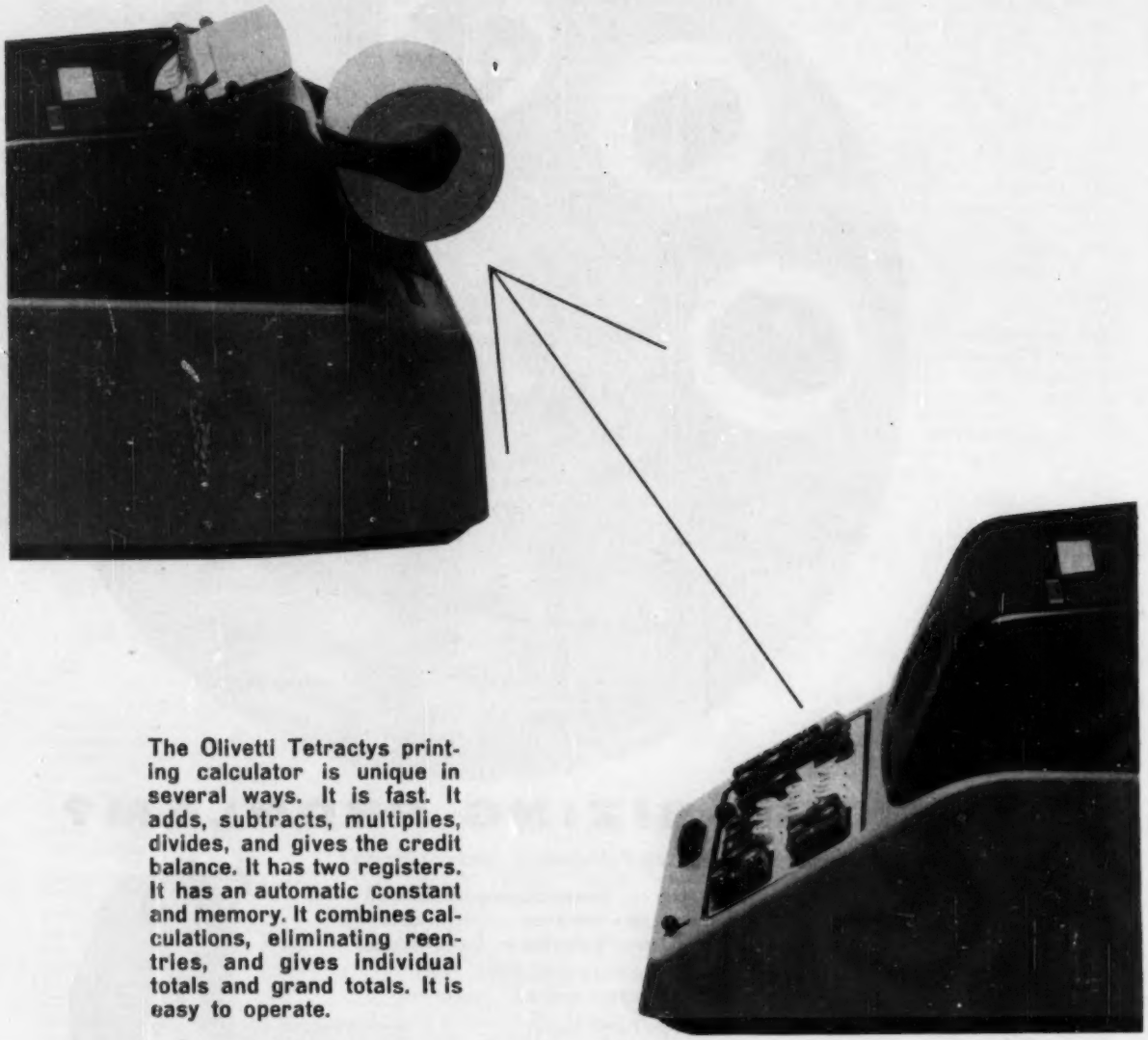

The Olivetti Tetractys printing calculator is unique in several ways. It is fast. It adds, subtracts, multiplies, divides, and gives the credit balance. It has two registers. It has an automatic constant and memory. It combines calculations, eliminating reentries, and gives individual totals and grand totals. It is easy to operate.

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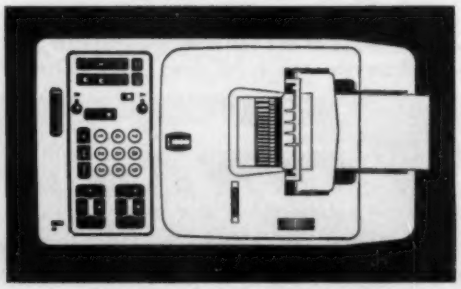
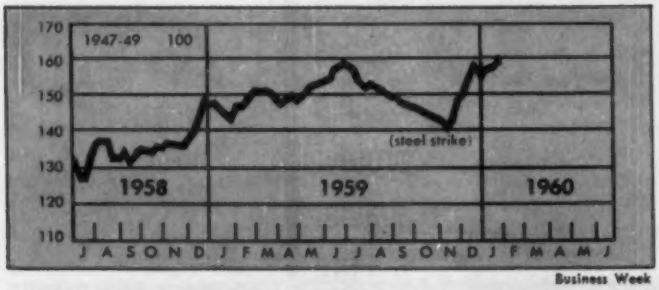


Business at a Glance



Business Week

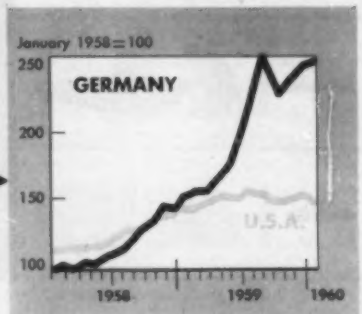
U.S. Business Trend

Everything but Wall Street behaved as expected in early 1960. Production was up strongly, and the economy is likely to set records this year. But the stock market suffered its worst January in modern times. Why? Some say inflation fears are waning, that investors believe business will slow after midyear. Others insist the drop was a normal correction. The mood: Extreme caution.

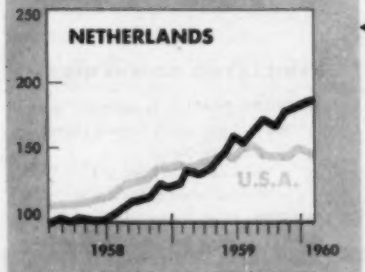
• CHARTS OF THE MONTH

The World's Stock Markets Enter the 1960s

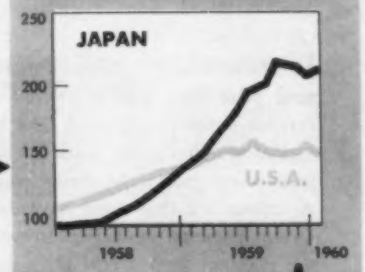
Despite Wall Street's ills, and higher bank rate at home, London equities held up well as 1960 began. Note the steady investor interest in "growth" stocks.



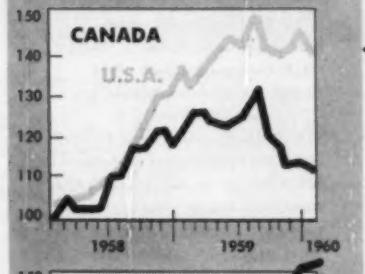
Popularity of equities and mutual funds among "small" investors has given the market its steady drive – which continued into January despite Wall Street's fall.



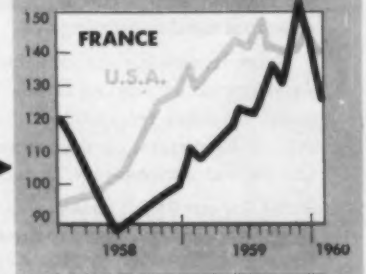
Stock prices nearly doubled in the past two years. There's less stress on equities among Dutch, but note foreign buying. Remarkably steady in face of U.S. price fall.



Sharp price break in December was followed by a strong rally in January to almost previous high. But there is still a more careful mood among small investors.

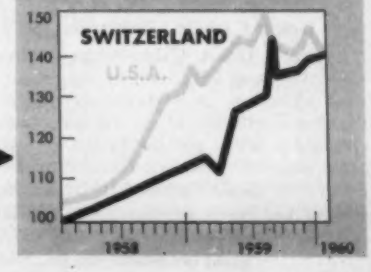


Tight money, a slower recovery from the '58 recession has held down Canadian stocks. Less U.S. buying, Wall Street influence, causes prices to soften.



De Gaulle's 1959 reforms encouraged both foreign and domestic buyers, and stocks rose handsomely. Algeria crisis sent them down in January.

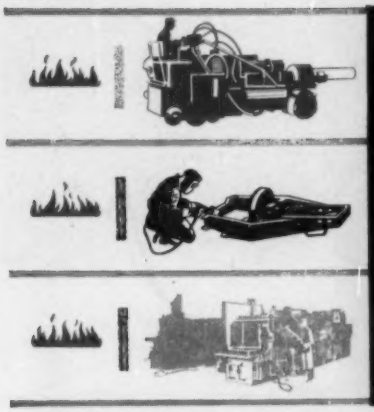
Mutual fund-buying has helped raise volume of stock-trading Down Under by 30% in past year. In January, the market showed a slow, steady rise.



Cautious Swiss are endorsing the growth stock idea, with small savings going more into mutual funds. Swiss prices in January hardly reacted at all to U.S. events.

Data: Standard & Poor's and local industrial stock price indexes; Business Week

UCON hydrolubes help protect against fire



In a large steel mill recently, molten slag was accidentally dumped on a steel plate floor which covered copper hydraulic lines connected to furnace control equipment. The hot slag pierced the steel flooring and melted the hydraulic lines. About 20 gallons of UCON Hydrolubes sprayed out before the pumps could be turned off. Yet, no fire resulted. A serious fire that could have caused extensive property damage and serious personal injury was prevented by using UCON Hydrolubes, the fire resistant fluid. UCON Hydrolubes also provide wear and corrosion resistance equal to petroleum oil.

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The ABCs: A Southern Anchor

IN FEW AREAS OF THE WORLD is the problem of how to achieve economic growth with economic stability so important to businessmen as in Argentina, Brazil, and Chile.

And to governments as well—especially that of the U.S.A., whose President scheduled late last month a history-making tour of the three. Washington's concern with Latin American development has been given added urgency by Communist-bloc probing and by Castro of Cuba's efforts to sow anti-Yankee feeling in the area. The ABC nations make up the crucial southern anchor of Western Hemisphere interdependence.

Furthermore, the U.S.A. has thousands of millions invested in ABC—public loans and a rising amount of private capital. It is committed to invest more.

• **World, Too**—The entire international community also has a growing stake in the ABC nations. Private investors in Europe and Japan are putting larger sums of money to work there. The World Bank and International Monetary Fund are deeply involved.

Those two august institutions are firmly committed to support the economic stabilization programs of Argentina and Chile, efforts which the bankers highly approve of and often cite as good examples. They do not cite Brazil: Indeed, the Bank and Fund are committed not to help Brazil unless it renounces its inflationary ways.

Finally traders throughout the world are increasing their efforts to share in the approximately $3,000-million annual imports of Argentina, Brazil, and Chile. They know that given sound growth, the potential is much larger. And they are aware that the ABC will be influential charter members of any Latin American regional trading arrangement (IMD,Dec,p11).

In Argentina, Brazil, and Chile, 1960 is fast becoming a critical time of test. Pressures are mounting in each nation which may change the policy emphasis in the growth-and-stability equation.

ARGENTINA last month received a World Bank mission, come to refresh its information on the progress of President Frondizi's stern reforms and to study the possibility of new loans. Later this month, Frondizi must take his record to the polls in important elections for the legislature. These events illustrate his problem: The Bank likes Argentine reform; the electorate does not.

Taking over an economy still wildly distorted by Peron's mismanagement, Frondizi and his economics "czar," Finance Minister Alsogaray, turned the screw hard. Cutting away state controls and subsidies sent prices soaring last year (chart,p14); falling imports, budget cuts, wage freezes made the hurt worse. Yet the results are encouraging. Inflation has slowed, the peso has held steady in world markets, exports are up and there is a payments surplus. The nation has won respect from foreign investors; nearly $200-million in new capital flowed into Argentina in the past 12 months.

• **Priority**—Frondizi and Alsogaray have felt they must give stability a policy priority over the stimulation of growth. But now,

LEARNING THE ABC'S

ARGENTINA

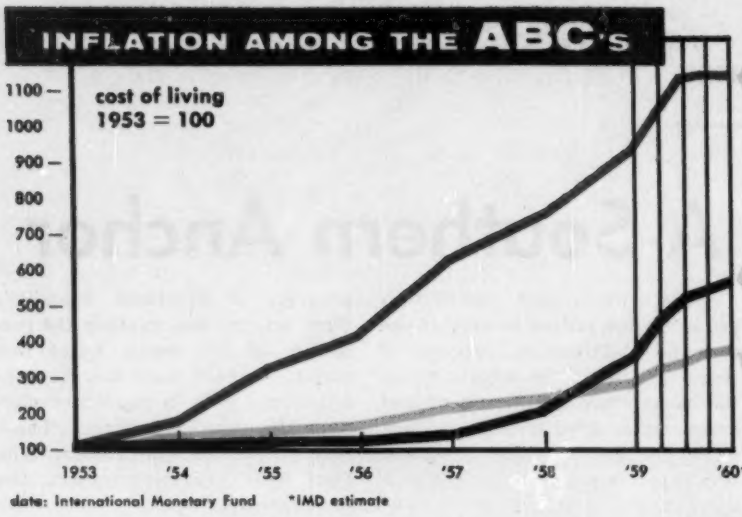
Population: a literate, skilled 20.6-million, increasing by 1.9% yearly. Area: 2.7-million km², including fine farm and pastureland, some minerals. Peronist misrule caused agriculture (19% of gross product), light industry (22%), and foreign trade to stagnate. Now in throes of difficult, unpopular reform—tight money, high prices, labor unrest, spartan imports. Some success as trade improves and foreign investment rises. The question: Can Argentina's bold reformers hold on to power through 1960?

BRAZIL

Mixed, fast-rising (2.4% yearly) population of 66-million, now starting to push into interior of the world's fourth largest nation — 8.5-million km². Pitifully dependent on coffee exports, yet Brazil boasts Latin America's largest industry, growing at a reckless pace, attracting heavy foreign investment (perhaps $3,000-million in all). Contrast continuing boom with raging inflation, huge external debt, and political confusion and you have Brazil — continental in size, with problems to match.

CHILE

A long (4000 km), thin (176 km) ribbon of mineralized desert, fertile valleys, high Andes, supporting (barely) 7.3-million people increasing by 2.6% yearly. When copper and nitrate fetch high prices, Chile prospers. Now trying desperately to diversify into manufacture, oil, better farming. Scarred by one of world's worst inflations, democratically-inclined Chileans now have "businessman's" government struggling to balance accounts, free the economy, attract trade and investment. So far, so g d.



CHILE: One of the world's oldest chronic inflationary spirals seems now to be slowing down a bit.

ARGENTINA: Inflationary upsurge came with Frondizi's stabilization program. The worst may now be over.

BRAZIL: No sign yet that Brazilians will seriously attempt to halt the steady erosion of purchasing power.

because of political pressure and economic need, they may have to lay more stress on growth. The grip of austerity has already been slightly relaxed. Some import controls have been eased, more may be soon. The government is considering acquiescing to certain wage demands in hopes of avoiding further crippling strikes. All in all, the time may be at hand to "prime the pump," if only slowly.

Can Frondizi hold on? This month's election will tell part of the story. Many businessmen are beginning to approve of the stabilization drive and so far the military still stands behind Frondizi. Abroad he has the support of the U.S.A. and the World Bank. If the bulk of the Argentine electorate allow it, Frondizi may yet start the economy growing again.

BRAZIL'S approach to the growth-stability problem has been all growth, precious little stability. "Our economy would lose its dynamism, we would have political chaos, if austerity were imposed," say Brazilian leaders when pressed by their creditors.

It is surely dynamic. The streets of Rio de Janeiro and Sao Paulo are crawling with new made-in-Brazil autos; rooftops bristle with TV antennas; foreign businessmen are rushing to set up shop in Sao Paulo and its industrial suburbs. Next month President Kubitschek makes a triumphal journey to dedicate the new capital, Brasilia. He has spent upwards of $350-million on this fantastic city in the hinterland 960 km from Rio, oblivious to those who complained that Brazil, living far beyond its means, could not afford it.

• **Spiral**—Mounting debt, soggy exports, dropping reserves, vast subsidies for coffee, huge deficits financed by bales of printing-press money (more was issued last December than in the entire year 1957)—all these are part and parcel of Brazil's spiralling inflation. Sporadic strikes and cost-of-living riots suggest that the worker, though better off than five years ago, is tiring of inflation. And while worker and businessman alike exude confidence about the nation's longer-term future, they are plainly worried about immediate consequences of "growth at any price."

Outsiders (and a few Brazilians) see evidence that Brazil's surging development is already beginning to slow. And they insist that it must slow further—that more pressure must be put on the brakes than on the accelerator. There are signs that for all his development zeal, President Kubitschek is aware of this. And the leading contender for next October's presidential election, Janio Quadros of Sao Paulo, is taking a "fight inflation" line in his campaigning. Significantly, the government candidate — General Lott—is making conservative noises too.

Barring an unforeseen turn in Brazilian politics, whoever wins next October may well find himself involved in a year or more of retrenchment and stabilization. The U.S.A. will be ready with credits to ease the pain. So too may be the Bank and Fund, if they are convinced Brazil will sin no more.

CHILEAN President Jorge Alessandri, an engineer turned politician, seems to have found the most acceptable balance between stability and growth. He is well-armed to carry out his program; he has the confidence of businessmen and no major political challenge as yet.

Chile has suffered one of the world's worst inflations (chart, above). It is not over—last year the cost of living rose over 33%. But at the end of 1959 and in early 1960 prices seemed to have stabilized. Alessandri is determined to keep the budget in line, hold wage rises to 10%, and emphasize the private sector of the economy as much as possible.

• **Push Harder**—This bothers some of his left-wing collaborators, who want him to use his extraordinary economic authority for more government controls and development. They, as well as other Chileans, think that the country must now push for more solid, broad-based development, increasing production and speeding diversification. It may be that Alessandri will now press down harder on the accelerator.

His businesslike reforms have attracted new foreign investment (especially in mining and power), as well as support from the U.S.A. and the World Bank and Fund. All three would probably come through again with assistance if asked. ●

New Source of Working Funds

American commercial financing firms are rushing to set up operations in foreign countries.

TWO IMPORTANT DEVELOPMENTS in commercial finance take place this month.

An accounts-receivable financing company opens its doors in Rome, soon to be followed by one in London. In Mexico, Switzerland, and Britain, new lease-financing companies are setting up for business. These specialized firms will open new channels of working capital for many hard-pressed businessmen.

The companies specializing in the lease financing of capital goods are independent affiliates of the United States Leasing Corp. of San Francisco. The accounts-receivable companies are affiliated with New York's James Talcott, Inc., which hopes to establish a network of affiliated offices throughout Europe.

• **Specialist**—Talcott's plan is to exploit its knowledge of "factoring" —buying receivables at a discount, or making loans against them—just as manufacturers market their "know-how" through licensing. The affiliates will be patterned on Talcott's, and the U. S. firm will train the personnel. Talcott will also rediscount a portion of the affiliates' business, thus replenishing financing capital.

A pilot project in the Caribbean convinced Talcott that its accounts-receivable financing would work outside the U. S. A. Now in its second year of operation, the National Credit Corp. of Puerto Rico expects to handle $15-million in receivables in 1960, much of it in the furniture industry. Talcott has profited from rediscounts and business referrals (the company also does general commercial financing, including some lease financing).

• **Demand for Leasing** — U. S. Leasing Corp. is setting up affiliates in direct response to inquiries from all parts of the world. Many businessmen have heard that lease-financing (basically a form of hire-purchase) has proved an effective sales tool for American capital goods makers (IMD, Dec). U. S. Leasing is now investigating lease-financing problems in common-market Europe and in Latin America.

Other American leasing companies are also moving to take advantage of international opportunities. New York's Equitable Leasing Corp. has foreign connections through the banking house of Zilkha & Sons. Most U. S. leasing firms do business only in dollars. But in one of Equitable's agreements, a Norwegian lessee makes monthly payments in kroner on French-made equipment that Equitable Leasing Corp. paid for in francs.

• **Restrictions** — Most companies place restrictions on overseas business. For example, Nationwide Leasing Co., Chicago, sets a $200,000 minimum on international leases, though it will accept domestic leases for as low as $1,000. On the other hand, Nationwide has been a leader in the growing business of leasing foreign-made equipment to U. S. buyers: "We have irrevocable letters of credit outstanding for several hundred thousand dollars," says President Robert Sheridan.

Nationwide has negotiations underway on several international leases, as does Lease Plant International, of New York. American Industrial Leasing Co., New York, reports that it considers foreign applications from Canada and Mexico only; and for Mexican lease-financing, it requires the guarantee of the Nacional Financiera.

All of the U. S. companies charge higher fees for overseas lease-financing. They cite the extra cost of legal studies, credit checks, and special screening. Overseas representatives are now helping to overcome these problems. ●

New York Plans a Trade Center

THE U. S. A. is showing an increasing determination to increase its foreign trade and overseas financing activities. And the City Fathers of New York are determined to hang onto—and even enhance—their share of the business.

Just a few weeks ago, the idea of a huge, $250-million world trade center for New York was broached, and it generated immediate enthusiasm among local business groups. If it is built (and it probably will be), it could give new focus and drive to the city's foreign trade activity.

• **Big Buildings** — Initial plans call for a combination office and hotel structure of 50 to 70 floors. Alongside, there would be a large, six-story international trade mart and exhibition hall—plus a helicopter port for quick, convenient access to the international airports. Also, provisions are made for a central securities exchange building, in which it is hoped that the New York Stock Exchange as well as commodity exchanges would be tenants.

City officials say that this concentration of trade facilities would be a vast improvement over the existing system, where offices are sprawled over various sections of New York. Foreign businessmen could make their headquarters at the center, and have everything they require at their fingertips.

Interest in a world trade center for New York is not new; many businessmen have talked of one for the past 25 years. But it took the establishment of a thriving center in New Orleans—as well as promising plans for centers in Chicago, San Francisco and Boston—to spur action.

The New Orleans International Trade Mart intends to build a $12-million structure to replace its present facility. Plans already are underway in Chicago to construct a 22-story building designed expressly for concerns in foreign trade. San Francisco's center is expanding, with 650 members now in the fold; so is Boston's.

• **Rome, Too** — The scheduled May opening of a world trade center in Rome also influenced New York City businessmen. The center in Rome is the first set up by Permindex (Permanent Industrial Exhibition)—a company with headquarters in Basel—to develop trade by establishing trade centers and exhibitions of goods. ●

How Much Bribery? –

Call it "mordida" or "payola," it is much the same around the world. But there are signs that the businessman's ethics are improving.

IN ROME, it is called *bustarella*, the little envelope slipped to the government employee. Old hands in Hong Kong speak of *hai yo*—"oil to calm troubled waters." In Mexico the businessman may be subject to the "bite" of *mordida*; in the Middle East he must provide *baksheesh* to the prince or petty functionary who can grease the wheels of commerce. And now the patois of Broadway and Hollywood has given the world *payola* to describe under-the-table payment for "services."

The out-stretched palm of the bribe-taker is as old as business itself. It will probably never disappear from human society. But bribery, and the state of business ethics generally, are not static. They have a peculiar rhythm of their own—of mounting corruption, then a period of reform all too often, but not always, followed by a reappearance of corruption again.

Today, in many parts of the world, reform is in the air. Business ethics are coming under closer scrutiny and it behooves the businessman to carefully re-examine his own company's practices. All the more so if he is active in international business: Failure to interpret correctly the business ethics of a foreign area can be costly, if not disastrous.

Accordingly, INTERNATIONAL MANAGEMENT took a quick look under the table at the state of business behavior in a number of countries. It found many factors, beyond the obvious ones of culture and business tradition, which influence business morality. And nearly everywhere there are changes to report.

"There are no signs of laxity here"

"Our business people have about the highest standards in the world," declares a Briton. An American manager insists that "these scandals are confined to the advertising and television crowd. You won't find that sort of thing in manufacturing." From a Dutch executive: "There are no signs of laxity here. Ethical standards are getting better and better."

A degree of self-righteousness is apt to creep into any businessman's talk about ethics. Yet you cannot dismiss these optimistic comments out of hand.

Take Holland. Dutch businessmen of old figure in many proverbs as being none-too-honest traders. But the Dutch say they have learned that straightforwardness is essential for a country so dependent on modern world trade. The dark days during and right after World War II made the Dutch more averse than ever to sharp practice; bribery and black marketing were almost standard and many an official and businessman succumbed.

Thanks largely to prodding by a virtually incorruptible press, the Dutch soon shook off the "war cloak". True, there is occasional petty bribery, but it does not seem to pay. ("The press will make a terrible row.") And as Netherlanders point out, their country is very small and most business people know one another. If Mr. and Mrs. van Putten are suddenly seen living the high life everyone soon whispers, "How are they doing it?"

In other nations, too, drab times of scarcity bred dubious dealing. In Britain in the 1940s, the businessman was considered a privileged member of society living high on tax-free allowances and none too careful about ethics. Today a prosperous nation is not much worried, and most would agree with a foreign businessman in Britain who says, "Business here gets a clean bill of health as far as I am concerned."

This is not to say there are no problems. The accusations of wrongdoing in London's financial center, revolving around "take-over bid" battles, has led to public concern about the accountability of directors and financiers. The result is a spate of "codes of conduct" for financial men and promises by government to tidy up Britain's often antiquated company laws.

"We've just got to keep up"

Another concern of European businessmen seems to spring from the increasing competitive tempo. And they tend to blame the American businessmen and methods that are invading the Continent. Perhaps entertainment of customers and the like are getting more lavish, and even skirting the edge of honesty, an English manufacturer will say, but it is the Americans who are forcing the pace. "We've just got to keep up." Furthermore, the traditional and often class-conscious businessman believes that the mushrooming of new companies with "newer men" makes for wide diversity in business morals.

Americans, too, tend to put some of the blame for ethical lapses on feverish competition. This is especially true of the radio and television, whence sprang the word payola. The high costs and do-or-die emphasis on audience "ratings" may have combined with what more staid Americans call the "loose ethics of show business" to create the problem.

While advertising and TV executives are hurrying to clean house, most U. S. business people insist their hands are clean. But a few are deeply worried.

One executive told *Business Week:* "We engage in corrupt practices and so do our competitors, and our problem is getting bigger. We have found that government engineers who deal with us expect more and more lavish entertainment and gifts."

Others are concerned about the practice (and it is rife around the world) of placing influential retired government and military men on corporate payrolls as directors and executives. And there is an uneasy feeling in the U. S. that tax laws and expense-account

A Close Look at Business Morals

living encourage easy ways. Few Americans will forget the President's chief assistant who fell from grace for accepting the favors of a wealthy businessman.

"*Wine, women and song*"

Germans admit ruefully that they are having their problems. Last year Chancellor Adenauer's personal assistant was suspended, jailed, and examined on charges of accepting fancy cars "on loan" in exchange for exercising his influence. And there was a Defense Ministry investigation in which more than 50 firms were accused of bribing procurement officials.

Germans say also that there is too much under-the-table dealing between private companies. The combination of sex and salesmanship was touched on in the widely-acclaimed film "Das Maedchen Rosemarie," which aroused the collective ire of Ruhr industrialists. Some foreign businessmen conducting negotiations in Germany have told of festive parties replete with "wine, women, and song." (But note that others say they have sat for weeks in a Duesseldorf hotel without being invited to anything more daring than lunch.)

Invariably the commentators point out that the postwar atmosphere of more free-wheeling, more competitive dealing makes bribes and partying more common. Oldline civil servants are shocked, maintaining that big firms would not have dared to offer "considerations" in the years before World War II.

Yet despite today's less-ordered business climate, European executives of 1900 and 1960 would probably agree on one point: In the long run, proven performance is what counts far beyond the fancy favor.

"*East of Rome, anything goes*"

And they would probably agree with one of their number who told INTERNATIONAL MANAGEMENT that, "East of Rome, anything goes." He might also have included Rome, and some points south as well as east.

For their part, Middle East, Asian, and Latin American businessmen are not sanctimonious when they talk of business morality. They might point out wryly that the man who said "anything goes" is probably angry at losing a contract because he refused to bribe a key man or, worse, because he bribed the wrong man.

They admit that their ethical standards are different. In some of the less-industrialized areas, the code of the individual trader persists—a fierce, independent competitiveness with minimum concern for what the Westerner would call fair practice. In the Middle East, 400 years of Ottoman rule by bribery and corruption still leave a mark. Group loyalties—to members of the family, clan, county, sect, or ethnic group—are stronger than any business standard, apparent or real. In much of the world it is highly unethical to refuse to help out a kinsman.

Moreover, the feasting and gift-giving that bother some Europeans and Americans are part of the accepted business pattern, and are certainly not considered payola.

Where payola does flourish is in the tangled thickets of government restrictions and bureaucracy, especially where the tradition of an independent civil service is absent. It is not always considered sinful. The little envelope given to an Italian government employee is "a good thing," according to a Milanese businessman: "First of all it rounds out the poor devil's salary, and then it is a shortcut through the intricate machinery of government."

Latin Americans and others would echo this view. Tipping a government man is really payment for his extra time and effort.

Tipping for service is one thing, wholesale graft and influence-peddling is something else. You can collect plenty of instances. An Italian will tell how a company purchasing agent got a $30,000 envelope for placing a single equipment order. A Middle Easterner will swear that a major engineering contract was tendered, cancelled, finally re-tendered so that the bidder with influence could get the job. A Latin American recalls how a man set up a bank, then immediately wrote to the nation's president advising that the president's bank account had a balance of $300,000 and "would His Excellency wish to leave the account as is or would he wish the bank to invest it for him?" Within a few months the bank had millions in government deposits.

"*Corruption is a way of life with us*"

Many businessmen would be inclined to echo the chief minister of an Indian state who says sadly that "corruption is a way of life." But they may well be overlooking some significant changes.

India is a case in point. An economy of scarcity, a growing taste for better things, a cluttered bureaucracy, has caused a situation where everyone thinks everyone else is corrupt, that the traditional gentle art of bribing has become a national scandal. Indians have been shocked by misdeeds among top businessmen and government officials. The result: A proud people is angry.

The Forum of Free Enterprise, an unofficial business group, has laid out an elaborate code of behavior which it insists businessmen must follow if free enterprise is to survive. Meanwhile, government is getting after its own miscreants, and encouraging the public to stand up to anyone who seeks a bribe. Slowly, "new brooms" are making an impression on the litter of centuries. Indians, as well as foreign businessmen, are finding that not every man has his price.

The new broom has appeared elsewhere. The Nasser coup in Egypt in 1952 was directed primarily at internal corruption. Mr. Nasser has followed through, and has not hesitated to get rid of even close associates on hearing of misappropriations.

The mood is reflected in some neighboring countries. The old-school Ottoman mentality seems to be wearing off as more university-educated young men take over family businesses or enter government.

Most businessmen have found that Japanese generally maintain high ethics, though their standards are

far different from those of other industrialized nations. Peddling of influence is believed to be a traditional and accepted part of the system; flagrant bribing and cheating are not. In the still-feudal business structure of Japan, where almost unquestioning obedience to those in authority is mandatory, there are more subtle kinds of manipulation.

Younger businessmen now tend to react against the old ways. They are likely in the next decade to try and bring Japanese standards more in line with those of Europe and the U.S.A. For example, there is a real revolt against the practice of design piracy, and it comes from a sense of shame for Japan's past business reputation.

Pride, then, is important in any assessment of business morality. For all the mordida in Mexico, you will find the businessman there more and more proud of his country's economic progress, and of his company and its product. He seems less inclined to keep afloat by means of shady deals. And he finds that in many cases he does better by providing quality and service than by providing payoff.

"The public has faith . . ."

That quality and service go farther than payola has been the text of an increasing number of management memos to the staff.

Many large companies (and small ones too) are halting the practice of giving and receiving business gifts. Entertainment budgets are being watched more closely. Not only does Philips Lamp of Holland have an unwritten rule against accepting gifts, it allows no one but advertising and public relations managers to send company Christmas cards. In U. S. companies that have no outright ban on gifts the rule has become: "If you cannot eat it or drink it in one day or at one sitting, it must be refused."

Proscriptions against gifts are a small way of putting everyone on notice. Sometimes more drastic steps are called for. Just a few weeks ago, in an unprecedented public announcement, the U. S. A.'s big General Electric Co. told how it had censured and demoted several executives for discussing prices on a government contract with competitors. Said GE's chairman:

"What has occurred is deeply regretted. . . . The public has faith in General Electric Co. as a corporate entity. We must measure up to this faith and confidence."

As large companies become more institutionalized, their employees begin to adopt the high standards of the finest civil service tradition. This trend, plus a genuine corporate sense of public responsibility and publicity consciousness, explains the remark of a British executive when questioned about any laxity among his employees: "They would not dare!"

There is less management assurance when it comes to doing business overseas. You hear many executives wondering whether they should operate on a dual standard.

Some cheerfully admit doing things abroad that they would not dare do at home. More often, management makes an effort to keep its skirts clean. It tells overseas executives to cleave to the company's home standards and pretend not to notice if its local agents or local lawyers make payoffs.

This sometimes brings unexpected complications. An American in Japan commented wistfully that his U. S. competitor and its Japanese partners were able to wield more influence than he was. When he pressed his own company's Japanese associates for an answer, they replied that they could not undertake the kind of manipulation required because, after all, as partners of a fine foreign company they were expected to live up to its standards, not Japan's.

It is becoming a matter of good business as well as good politics for foreign investors and traders to remain above suspicion. It's not easy. They must mark out for themselves a fine line of distinction, abiding by the rules of the local business game without falling into the trap of local corruption. More and more you hear of companies setting up shop abroad with a complete ban on payola and finding—sometimes to their surprise—that they do all right without it.

"It's like blackmail," says a foreign executive in Mexico. "Once you start it, there is no end." ●

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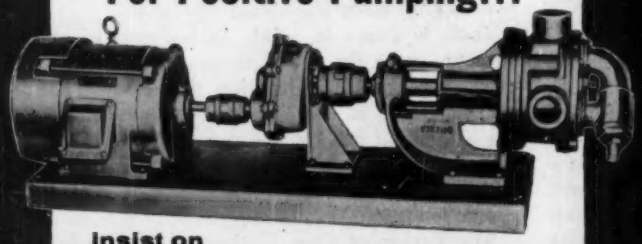

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A Multiple Choice in Materials

TECHNOLOGY today is making possible an almost unlimited substitution of new materials for old.

MANAGEMENT must constantly be alert to profit from these opportunities in "materials manipulation."

AT LEAST 50% of today's consumer and industrial products contain materials that were not on the market 20 years ago. You see the evidence in the plastics now going into automobiles, office machines, home appliances; the new metal alloys adding strength to buildings; the man-made fibers, gasoline additives, high-strength ceramics, new synthetic rubbers.

The endless list brings both opportunities and problems. In every industry, management has an ever-widening choice of materials for any application:

In selecting a shipping box, should it be wood, aluminum, plastics, or aluminum-lined paperboard? In building, should walls be of reinforced plastics, steel, aluminum—or a combination of the three? How about powdered metal parts, against those that are cast, machined, extruded?

• **Choice of Materials**—Basically, two factors influence a change to new materials—physical properties and cost. But they are complex factors. In considering a change of materials, a manufacturer wants more than unique physical properties. He may be looking for increased strength, less weight, more durability, added beauty. Often he wants a material that will simplify his operations, or a material that may recently have become available locally when before it came from a great distance.

And he must consider the cost of change—what new equipment will be needed, which operations will be eliminated or created.

The U.S.A.'s Westinghouse Electric Co. recently turned to making refrigerator boxes out of sandwiches of plastic foam and aluminum. The change meant less fabricating (simple saws in place of presses and welders), less skilled labor, less handling, a lighter finished product. But it also meant reorganizing the entire factory. Techniques had to be developed for sealing the corners of the new boxes, and a new system of quality control had to be installed.

• **Substitutes** — The lengthy strike of the American steel industry last year revealed the range of materials now available to manufacturers—and the opportunities to substitute, permanently or temporarily, one material for another. Without steel, manufacturers found themselves for the first time using fiber drums, aluminum stampings, glass carboys, wood container tops, replacement parts made of plastics and aluminum. Many of these substitutions were on the way, but they were speeded up by the strike.

I. Growth Pattern Varies

Expanding industry and changing technology stimulate the use of more materials of all kinds. New materials, in fact, have helped create new industries—aircraft, missiles, electronics—and increased the use of traditional materials.

Says one American steel executive: "I have often tried to imagine

A SAMPLING OF SUBSTITUTES

For these products...	...familiar materials gave way...	...to these substitutes
Farm buildings	galvanized iron, wood	enamel-coated aluminum
Automobile bodies	sheet steel	reinforced plastics
Water distribution lines	cast iron, copper	polythene, other plastics
Sportswear	handloomed cotton	Dacron-cotton
Building flashing	sheet metal, asphalt	neoprene, other plastics
Gears, bearings	cast or machined metal	metal powders, nylon
Appliances, housings	sheet metal	vinyl-coated steel, plastics
Bathroom fixtures	porcelain, metal	reinforced plastics
Food-plant piping	metal alloys	glass
Street lamps	glass	transparent polycarbonates
Tank trucks	steel, aluminum	plastics lined with stainless steel
Cooking utensils	copper, aluminum	Pyroceram
Heavy-duty chains	wrought iron, steel	reinforced plastics
Missile nose-cones	stainless steel, ceramics	nickel-plated copper
Engine blocks	cast iron	aluminum
Bridges	steel	aluminum
Boats	wood, steel	aluminum, plastics

". . . Old materials are joining forces with new materials in scores of applications."—page 14

what steel's consumption today would be if there never had been any such things as aluminum and plastics. . . . I think there would be less steel used, less everything." Without today's new materials, industries such as jet aircraft would not have been able to develop.

• **Growth Pattern**—Though the use of all major materials has increased, the growth pattern varies greatly for different items. A study by the British National Institute of Economic & Social Research makes this clear.

While manufacturing output in industrial countries during recent years has increased 28%, use of traditional non-ferrous metals has gone up only 16%; and agricultural raw materials only 10%. Steel has kept pace with manufacturing output, while processed materials—aluminum, plastics, synthetic rubber, man-made fibers—have raced far ahead, their use increasing by 67%.

• **Giving Way**—Part of the growth in use of processed materials is a result of new products and new industries. But a large proportion is due to substitution. This trend is bound to continue. Cotton and wool will continue to give way to man-made fibers, natural rubber to synthetic, steel and non-ferrous metals to aluminum and plastics.

These changes owe much to production and transport developments as well as to the improvement in processed materials themselves. Bulk handling techniques allow the movement of sugar in aluminum bins rather than jute and cotton bags. Building wall panels of aluminum and plastics are easier to ship, and do away with many costly on-the-site operations.

• **Counterattack**—The older, natural materials are not standing idly by as aluminum and plastics forge ahead. Tougher paper, more attractive rayon, chemically-treated wood, improved copper and steel alloys—all these and more are moving out of the laboratory.

Glass is finding a new place for itself in construction and food processing. Pipes made of special glass have been taking the place of metal alloys in wineries, dairies, and chemical plants. Pyroceram, a non-crystalline glass, now is formed into skillets, saucepans, and coffee percolators.

II. Joining Old and New

Old materials are joining forces with new materials in scores of applications. Cotton teams with Dacron in Madras-like sportswear. Corrugated boxes are lined with aluminum foil, aluminum building panels coated with enamel, steel coated with plastics and aluminum, and tank trucks are made of reinforced plastics, then lined with stainless steel.

Many manufacturers are using both metal and plastic parts in office machines and appliances. A new 5-kg floor washer consists of four metal parts and 38 pieces of plastics. A typewriter combines 85 plastic and 16 aluminum parts to get quiet and light weight. Plastic parts are fitted into an aluminum backbone of a new hair dryer.

• **Plastic Coatings**—One of the most promising new metalworking techniques consists of bonding a thin film of vinyl to steel and other metals. Unlike enameled steel, the plastic goes on before the metal is formed or shaped. The coated metal then can be worked without damage to the coating.

The technique means an end to painting lines, drying ovens, ventilation systems, other processing and finishing equipment. It offers an easy-to-clean, chemically-resistant finish of any color or design—even simulated wood. Typical applications include appliance boxes, furniture, automotive instrument panels, luggage, business machines.

Other plastics besides vinyl are stepping into the picture. The U. S. A.'s National Steel Corp. recently announced a process that coats continuous coils of meter-wide strip steel with a polyester for use in home appliances.

III. A Look at Aluminum . . .

Aluminum is a prime mover in today's materials revolution. It can be milled, drawn, or extruded into endless shapes with a minimum of labor. It is easy to ship, easy to maintain. It is abundant.

Aluminum is moving ahead in a wide range of new applications. A recent survey by *Steel* magazine revealed that three out of four U. S. metalworking factories will be expanding their use of aluminum in the next five years. Over 50% report they will be substituting the light metal for carbon steel in certain applications; others will be switching from copper, stainless steel, wood, and plastics.

The construction industry today is the biggest user of aluminum. At least 70 large U. S. office buildings are built with aluminum curtain walls. Substantial quantities of the metal are now used for store fronts, elevator cabs, heating ducts, and hardware. One builder estimates that at least 69% of the 3,000 items that go into an average home could be made of aluminum.

• **Bridges and Ships** — High-strength aluminum alloys are going into bridges and ships. A German shipbuilder is fitting out the world's first all-aluminum tanker for service on the Rhine.

The auto industry is each year using more aluminum. Diecast engine blocks made of aluminum-silicon alloys are proving strong and wear-resistant. So are aluminum pistons, fuel pumps, carburetors, transmission housings, grilles, and trim items. In the next few years aluminum may well appear in wheels, brakes and bumpers.

Despite these gains, aluminum still has a long way to go in its competitive battle with steel. An average U. S. car still uses only 25 kg of aluminum, compared to over 1,000 kg of steel.

After World War II, aluminum began going into the making of small pleasure boats in a major way. Now it is meeting stiff competition from reinforced plastics, which offers varied styling and color. But new techniques of coating the metal with enamel and plastics of many colors may help aluminum to hold its own.

Less aluminum probably will be used in aircraft in years to come, because high-speed jets and rockets demand materials with great heat-resisting powers. But more aluminum will go into railroads, electrical machinery, appliances—and much more into packaging.

Aluminum packaging is growing fast, and it will be growing even

Continued on page 24

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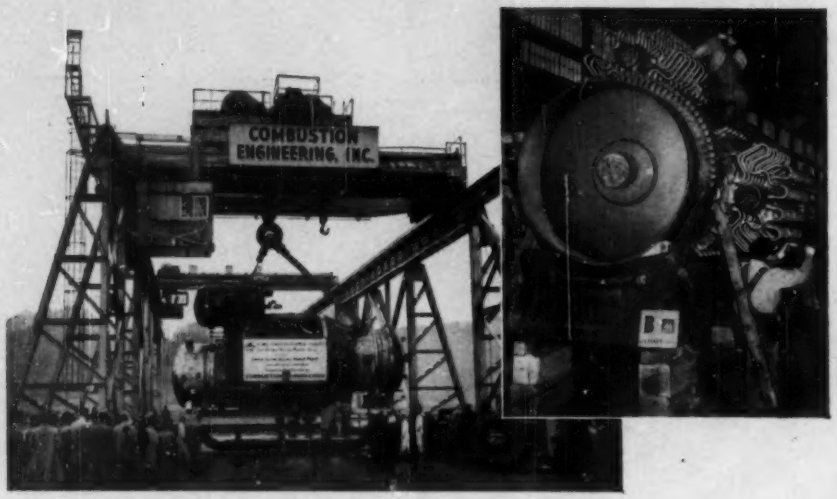
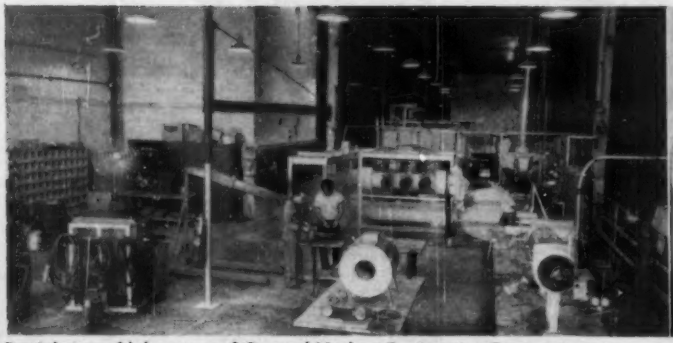


(Left) The huge riverside crane at Combustion's Chattanooga Division easily lifts this 92-ton stainless steel reactor vessel — the most complex reactor vessel built to date — into a barge for shipment to the Enrico Fermi Power Station, Lagoona Beach, Michigan.
(Right) Stainless steel sodium heat exchanger consisting of a series of tubes within tubes, encased in a pressure vessel.

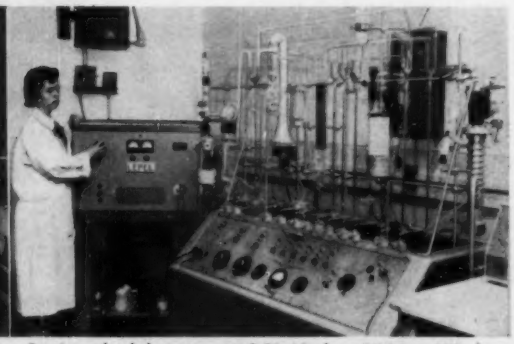
What C-E is doing to advance

The strange and wondrous world of the atom has been examined and surveyed by C-E scientists and engineers since 1946. The object–to put the controlled energy of the atom to productive use for the generation of power. The result –a wealth of knowledge and experience in the application, design and manufacture of nuclear power equipment. Backed by specially designed laboratories and manufacturing facilities, this knowledge and experience–greatly augmented and enriched by the acquisition of the General Nuclear Engineering Corporation early last year–has enabled C-E to undertake many kinds of nuclear work.

Notable C-E and General Nuclear projects are outlined on the opposite page. Virtually all of them are *current*, and many have a significant relationship to the vital task of making nuclear power competitive with conventional power. Collectively, these projects will contribute importantly to the Company's objective of achieving the same position of leadership in the atomic world of tomorrow which it has long since achieved in present-day methods of power generation.



Partial view of laboratory of General Nuclear Engineering Corporation at Dunedin, Florida, showing equipment used for the study of a high-pressure, high-temperature gas coolant system.



Portion of a laboratory at C-E's Nuclear Division, Windsor, Connecticut, showing gas analysis equipment used for detecting the presence of small quantities of gases in reactor materials.

The 520-foot-long Heavy Vessel Bay at C-E's Chattanooga Division was created especially for the manufacture of heavy nuclear components.

Portion of the 530-acre site occupied by C-E's Nuclear Division at Windsor, Connecticut. This Division is equipped for the development, design and test of reactor systems and the manufacture of reactor cores and core components.

Nuclear Power Progress

C-E NUCLEAR PROJECTS

For Electric Power Stations

- In association with Stone & Webster Engineering Corporation, a design study for AEC of an advanced type of large (236,000 kw) pressurized water reactor power plant.
- A long-term development program for AEC to determine the best means of using nuclear energy to generate superheated steam. (Success in this endeavor will be a big step forward in reducing the cost of nuclear-generated power.)
- Design studies for the Puerto Rico Water Resources Authority, under AEC contract, to determine the best means of adding nuclear superheat to a boiling water reactor.
- Design, research and development work covering a gas-cooled, heavy-water-moderated, pressure-tube type reactor for the East Central Nuclear Group, Inc., and the Florida West Coast Nuclear Group. This development will also lead to a nuclear power plant using superheated steam.
- The development and test of various kinds of fuel elements and fabricating procedures, under contract with the AEC.
- The design and manufacture of reactor vessels, including the largest and most complex vessels of their type built to date, for the Shippingport Station (America's first full-scale atomic power plant), the Enrico Fermi Atomic Power Plant, the Humboldt Bay Nuclear Power Station, and Italy's first nuclear power plant.

For Military Power Plants

- Design study for U. S. Army, under AEC contract, of a truly package type of nuclear reactor, using the boiling water concept, for remote installations. This program includes operation of a prototype boiling water reactor at the National Reactor Testing Station in Arco, Idaho, and the training of military technicians in the operation of the installation.
- The conceptual design and operation of a nuclear test reactor, under AEC contract, to permit full-scale testing of prototype reactor cores for military field plants.

For Naval Power Plants

- The design and manufacture of a submarine reactor system designed to set new standards of accessibility, speed of startup and operational flexibility—and the operation of a land-based prototype installation.
- The design and manufacture of numerous reactor cores, reactor vessels, steam generators and pressurizers for various types of submarines and naval surface ships.

For Merchant Ship Propulsion

- The design and engineering study of a prototype pressurized water reactor for a 45,000-ton tanker, under contract with the AEC and the U. S. Maritime Commission.

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- Bio-assays, decontamination, environmental monitoring, radiochemical analyses and radiological safety programs.

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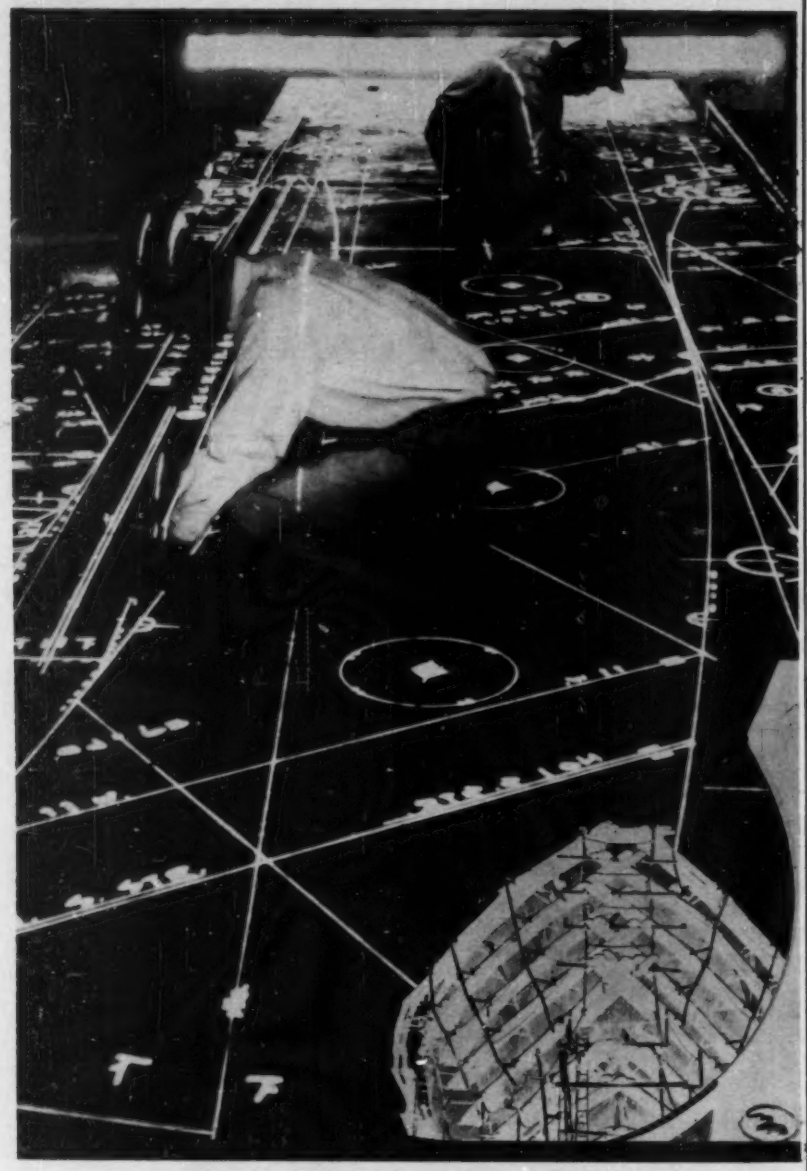

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"Aluminum cans are filled with juice, beer, oil" page 19

faster. The major target now is the canning industry. New machinery for can making has been developed (IMD, Feb, p3), and aluminum cans are being filled with juice concentrates, beer, frozen fruits, and petroleum. Greater use will come as heavier gage aluminum plate becomes available at a price competitive with tinplate.

V. . . . and at Plastics

Plastics continue to move in all directions as new polymers appear, old resins are improved.

Important advances in plastics machinery and forming techniques stimulate the growth of plastics. A a recent exhibition at Duesseldorf, an Italian firm showed a giant injection molding machine capable of processing 350 kg of plastics per hour. And there were automatic rotary injection machines, twin-screw extruders for making pipe, improved molding presses and vacuum forming units.

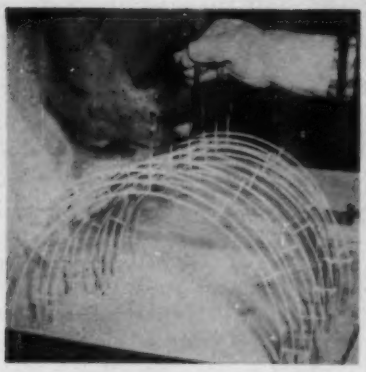
• **Blow Molding**—The fastest-growing technique in plastics now is blow molding. Until recently it was confined to making round bottles and only a handful of companies were in the business.

• **Reinforced Plastics**—Improved techniques and equipment now are available for reinforcing plastics with fiberglass. In contrast with metals, plastics alone often lack strength, dimensional stability, and heat resistance.

Reinforcement with glass fibers corrects these deficiencies. The combined product makes a useful material for pleasure boats, auto tops, railroad cars, buses, and building panels. A U.S. engineer recently predicted that in another 10 years plastics and reinforced plastics would be more commonly used in construction than steel.

Plastics have been making a constantly-widening inroad into the building industry. Besides panels, you see plastic pipes, wall covering, floor tile, lighting fixtures, flashing, paints, and hardware.

And the all-plastics auto body is moving ahead. Already available are several British sportscars, General Motors' Corvette, and most recently, the reinforced-polyester Sabra, made in Israel. ●



Wire parts dip into dry vinyl in a new process that . . .

Fuses Powders OnOddShapes

COATING JOBS that previously were impossible or too costly now can be done by "fluidized-bed" processing. The process puts dry, insoluble materials onto intricate shapes and wire parts.

The parts to be coated are preheated and then dipped into a tank of swirling powdered material, such as plastics, metals, or ceramics. Currents of air or gas churn up the powders into a fluidized mass resembling a foaming liquid.

The powders fuse onto the heated part to form a continuous coating of uniform thickness. The coating thickness is controlled by the residual heat of the part and its time in the fluidized bed.

• **Vinyl on Wire**—A U.S. manufacturer has been using such a process developed by Polymer Processes Inc. for coating vinyl onto wire clothes guards for washing machines (picture). A rack of six guards, preheated to the proper temperature, is dipped into fluidized vinyl for 3 to 20 seconds.

The process attaches a uniform coating of plastic over each guard. Because the coating does not flow, it is as thick at the bottom as at the top. A single dip puts on a .25-mm coating of smooth vinyl. Heavier coatings can be obtained by the heat varying and timing.

Fluidized-bed coating can be applied for insulation, corrosion-resistance, or decoration. The process can be used with molds to form thin-walled parts. (*American Machinist, Dec* 28, *p*72)

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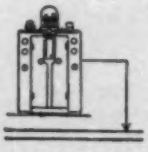

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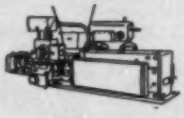

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New Ideas in Wood Pulping

A PILOT PLANT at the University of Florida, U. S. A., soon will begin tests on a novel process for continuous wood pulping. The process goes contrary to the accepted practice of batch operators, who soak wood chips before injecting steam to bring the mixture to cooking temperature.

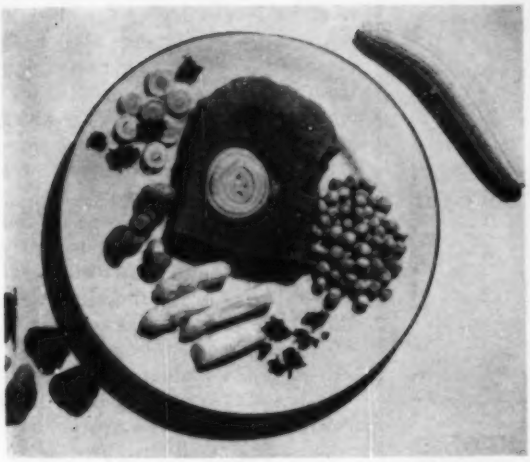
Florida scientists don't believe that presoaking is necessary. Instead, they will concentrate on optimums for chemical concentration, temperature control, and chip size. They hope to increase the proven cost and product-quality advantages of continuous over batch pulping by use of an unusually low wood-liquor ratio. (*Chemical Week, Jan. 2, p34*)

TUBES carry liquids, then yield to general cargo. These trucks offer . . .

Hot Competition for Motor Tankers

COLLAPSIBLE rubber containers now haul everything from petroleum to phenolic resins, reports *Petroleum Week*. They have proved so economical in the U. S. A. that tank-truck operators are worried about the competition—and are asking for government regulations to limit their size to about 4,000 liters.

The containers now come in sizes from 1,500 to 14,000 liters. Made of rubber impregnated with Dacron or rayon, they cut down on shipping costs because they allow flat-bed trucks to serve double duty (picture above). After delivery of a liquid or dry-bulk material, the tube is collapsed and rolled up. The truck then can take on general cargo. ●



BERRIES, steak, asparagus are preserved without cold storage. Add water and they taste like fresh food.

AUTOMATIC CONTROLS on German freeze-drying unit help produce foods with no more than 1% residual moisture.

Frozen Food Gets a Competitor

A REVOLUTION in food-processing that may surpass the one started more than a decade ago by deep-freezing equipment appears to be getting under way in both Europe and the U.S.A.

Called "freeze-drying," the process takes the water out of foods without disturbing anything else. It allows the lengthy storage of meats and produce without refrigeration.

Vegetables, steaks, sea food, soups—all seem to have the quality of fresh foods once they have been soaked in water. Reporters who sampled such food recently at the laboratories of Leybold-Hochvakuum-Anlagen GmbH, a West German manufacturer of freeze-drying equipment, say that it looked and tasted like fresh food.

• **Old in Principle**—Freeze-drying—also known as vacuum-drying, lyophilization, drying by sublimation—is not new in principle. The same process has been used for several years in the preservation of blood plasma and surgical transplant material.

Leybold began studies into the industrial freeze-drying of foods in 1950. About two years ago, the company sold a freeze-drying unit to Unilever's subsidiary Unox Fabrieken of Oss, the Netherlands, for the manufacture of soups with bits of chicken and beef. Now a German firm and a French firm have bought similar installations. The three Leybold plants together have a daily capacity of 8 tons.

Food freeze-drying so far has been applied on a commercial scale primarily with soups. In the U.S.A., F. J. Stokes Corp. has supplied equipment for freeze-drying such delicacies as oysters, shrimps, gravies, and gourmet soups. And both Stokes and Leybold scientists have shown that it can be done successfully with all varieties of solids and liquids.

• **On to Pure Products**—Dr. G. W. Oetjen, Leybold managing director, says that he expects the present practice of freeze-drying only soups and delicacies to be over soon. In coming months he anticipates "widespread interest in what we call pure products, such as preserved fruit, slabs of meat, chicken parts."

Leybold points out that freeze-drying has little in common with the methods introduced during the war for dehydrating eggs and milk. It produces a far superior product. The food is not broken up and put together, as in conventional dehydration. The water is removed without altering the shape or composition of the food.

• **How It Works**—Freeze-drying consists basically of freezing a product and then changing the ice directly into vapor, without allowing it to pass into a liquid phase. The process is carried out under controlled conditions in special vacuum chambers.

Food can be frozen either raw or cooked. Liquid products, including coffee extracts, are frozen before being put in the drying unit.

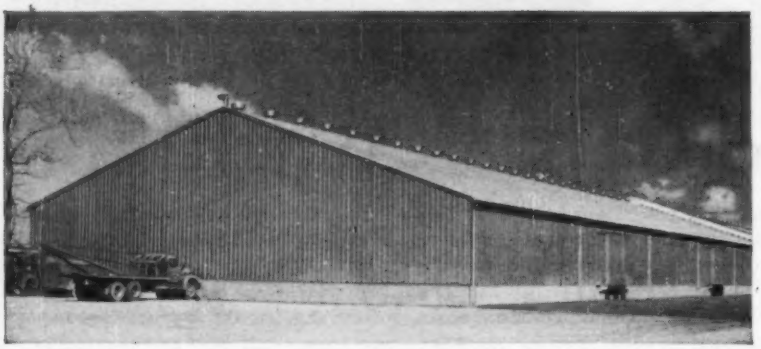
Freeze-drying draws off water without hurting the cell structure of a food. When a housewife later adds water, the cells are refilled. The product has substantially the same texture, smell, taste, and nutritional quality as fresh food.

The process demands precise control of temperatures and of the drying cycle. By use of a new automatic control unit (photo above), Leybold says it gets 40% better yield than from earlier equipment. Products can be brought down to a residual moisture of 1%, or less.

• **Big Plans**—Leybold says it now is negotiating to build a 50-ton per day continuous-operating plant for a purchaser in West Europe. Such a plant could supply the food requirements of a medium-sized city. A similar plant is being discussed for a country in East Europe, and Leybold expects to sign a contract shortly for a 15-ton plant, chiefly for freeze-drying milk.

Stokes of the U.S.A., as well as other vacuum-equipment manufacturers, are moving steadily into the food industry, though details

Butler Buildings



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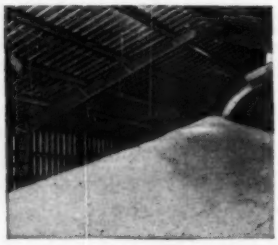

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on new installations have not been made public. Stokes has been at work on freeze-drying for over 20 years. Its equipment has been used for freeze-drying everything from plasma and bone grafts to oil pigments. Substantially all fresh and cooked foods can be freeze-dried, Stokes experts say—if the economics are favorable.

• **Battle Ahead** — Freeze-drying will be stepping into a lively battle with canned and deep-frozen food as it expands in the food industry. Packers, wholesale and retail outlets have invested huge sums of money in these older processes in both the U.S.A. and Europe. This includes refrigerated trucks and railcars, as well as processing equipment and cold-storage vaults.

None of this will be needed with freeze-drying. The food will stay good as long as it is kept in moisture-proof plastic or foil packages.

Freeze-drying equipment is considerably more expensive than deep-freezing plants, even with the economies of automatic controls. But it brings down a long line of other costs—packing, shipping, handling—and experts believe that these economies are more than enough to offset the initial investment for many foods.

Leybold engineers say that a food factory must have a throughput of over half a ton daily to make freeze-drying equipment practical. They estimate that a 3-ton plant in the U.S.A. would cost the food processor about 1.6¢ per kilogram of starting product. A 6-ton plant with automatic controls might cut this price by a third.

• **Air Shipment**—Freeze-drying has special advantages when large quantities of food have to be shipped long distances. The product often can go by air, because it weighs only a fraction as much as other foods. (Meat loses 35% of its weight in freeze-drying; vegetables, about 90%.) And freeze-dried food needs no refrigerated transport or storage, even in tropical areas.

But the big advantage is in food quality. Leybold recently tried out some of its food samples in a gourmet's restaurant in Cologne. Customers could not distinguish the freeze-dried from fresh food. ●

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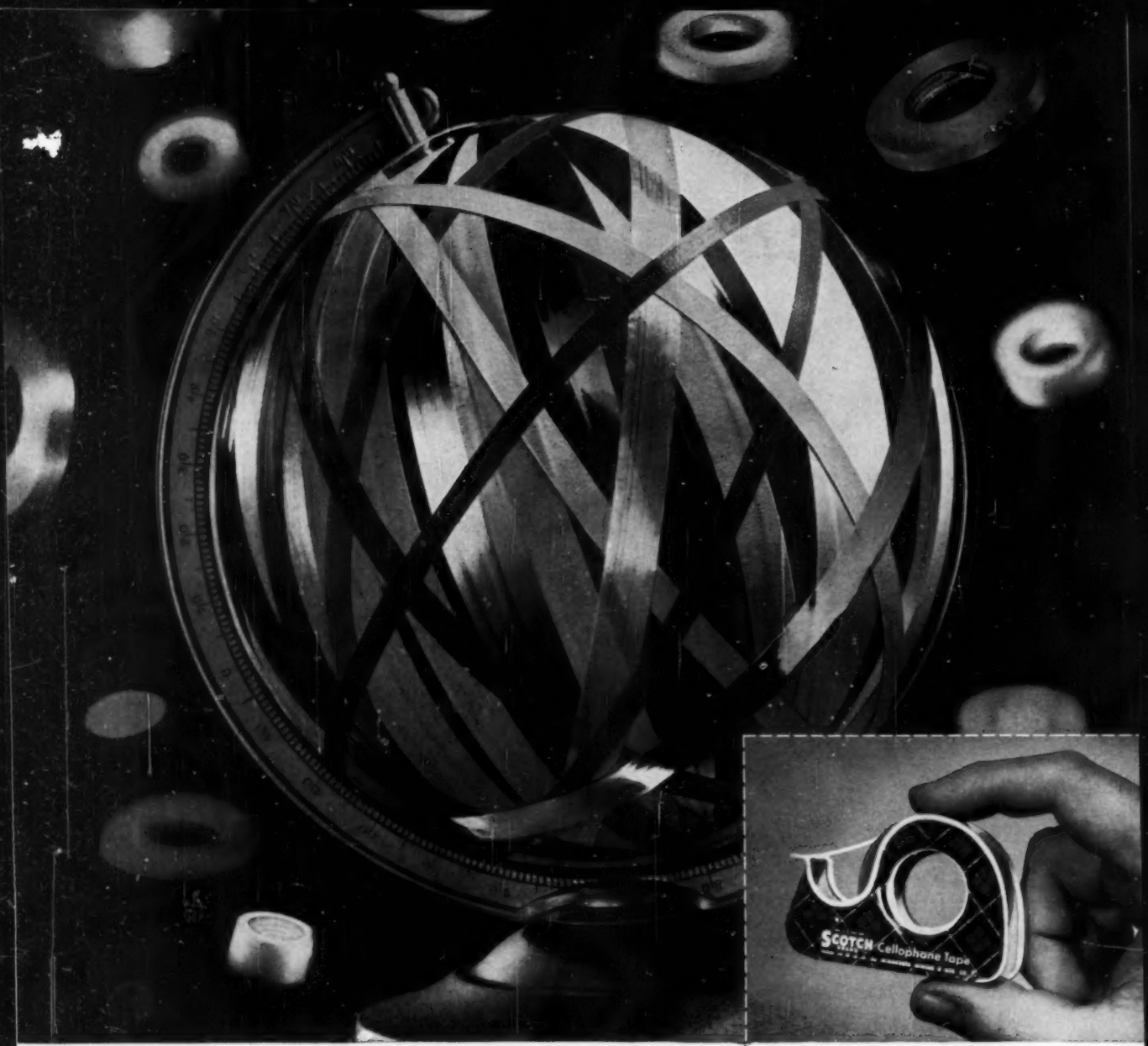

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More—and Purer—Sugar from Cane

Increased yields and bigger profits may come from cane diffusers now under test in Hawaii and Florida.

SUGAR MEN today have their eyes on Hawaii and Florida, where two pilot plants report promising yields with new continuous diffusion processes.

Sugar is normally extracted from cane by crushing and milling. Diffusion, on the other hand, boils the sugar out of pieces of cane. Diffusion gets more sugar out of a ton of cane, and a purer product as well. And it cuts down on capital investment and maintenance costs by eliminating the huge grinding mills and their power plants.

In Hawaii, Kekaha Sugar Co. says it is getting a 98.8% sugar yield from a 17-ton-per-hour slope diffuser. The pilot plant was built by Silver Engineering Works, a leading U. S. manufacturer of diffusers for the beet-sugar industry. (Growers in the U.S.A. and Europe traditionally use diffusers for extracting sugar from beets, and many now are using continuous diffusion.)

In Florida, U. S. A.'s Chemetron Corp. has reactivated its 150-ton/day continuous diffuser at the sugar factory of the Fellsmere Sugar Producers Assn. J. G. White Engineering Co. (New York) has teamed up with Chemetron to supply engineering and construction services. White reports that sugar manufacturers in several cane areas of the world have expressed interest in the process.

The Chemetron pilot plant was first put into service five years ago. White says that initial operating difficulties have been overcome, and its engineers now report up to 98% sugar extraction of about 87% purity. This results in an end-product yield of 6% to 8% more sugar than by conventional milling.

White has released studies that show that a sugar factory's profits can be raised more than 50¢ per ton of cane by using the Chemetron process. Initial capital investment can be cut by 25%, extraction costs by over 10%.

• **Questions Raised**—Past objections to cane diffusion often have centered on the small size of the installations planned. Can a diffuser, or series of diffusers, compete with giant grinding tandems like those in the West Indies that process 5,000 to 10,000 tons of cane a day?

Technologists are not yet sure. But both Chemetron and Silver Engineering Works hope to get their equipment into new cane areas, or as auxiliary equipment at existing factories.

Egypt is the only country in the world that today commercially extracts sugar from cane by diffusion. Batch diffusers rather than continuous diffusers are used. They were imported from France several years ago when Egypt made an unsuccessful effort to grow sugar beets. French engineers later converted the equipment so that it could handle pieces of cane. (*Chemical Week, Jan 9, p62; Chemical Engineering, Dec, p22*)

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Photograph by courtesy of OSLO LYSVERKER Oslo, Norway.

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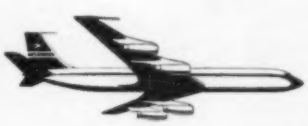

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Technology in Brief

Metals Get More Working Strength

Researchers in the U.S.A. have developed a method of hardening steel and other metals without hurting their ductility, toughness, or pliability. A metal normally becomes brittle as it is hardened by heat treatment. In the Bassett "Thermomagnadynamics" process, advanced by Research Development Corp. of America, heat treatment actually changes the grain structure of the metal so that it holds its strength under stress. Research Development hopes to supply alloys this year that are still ductile when hardened to resist 35 tons per sq cm. Several aircraft companies are interested in the development. (Business Week, Jan 16, p45)

Central Hydraulic Systems for Cars

U.S. automakers soon may turn to central hydraulic systems that run everything from windshield wipers to automatic transmissions. Two auto industry committees now are studying the specifications for fluids that might go into such a system. The only auto now using a central hydraulic system is France's Citroen DS-19, whose brakes, power steering, suspension, and automatic clutch operate on a heavy-duty synthetic fluid. (Chemical Week, Jan 23, p66)

Altimeter Works by Isotopes

An altimeter now being developed by U.S.A.'s Boeing Aircraft Co. uses radioisotopes to measure atmospheric densities. The device is said to be cheaper than pressure altimeters now available, and more accurate at high levels. At an altitude of 12,000 meters, for example, a conventional altimeter allows an error of 350 meters; Boeing says its isotope meter allows an error of no more than 60 meters. The new device is expected to supplement, rather than replace, the pressure altimeter. (Product Engineering, Jan 4, p8)

Porpoise-like Skin May Speed Boats

Greatly increased speed for submarines, torpedoes, and small pleasure boats is promised from a hull coating patterned after the skin structure of a porpoise. Dr. Max O. Kramer, inventor of the scheme, made microscopic examinations of the skin of a porpoise to find out how this animal was able to move so swiftly through water. His studies led to a theory of anti-turbulence, which has been adapted in a coating developed by U.S. Rubber Co. The coating consists of a thin layer of rubber supported by many tiny rubber pillars. A thick liquid flows between the pillars. When turbulence occurs, it is offset by the flow of the liquid in the coating.

. . . in One Sentence

An American biochemist proposes to make cigarette filters out of Romano and Parmesan cheeses; he has found that a combination of cheese and charcoal removes 90% of the tobacco tars . . . A Soviet scientist has developed a plastic transistor, reportedly "as electrically conductive as germanium and silicon" . . . A new shrink-resisting treatment of wool, based on oxidation in acid solutions, has been developed by Israel's Institute of Fibres and Forest Products . . . Garlic is being tested as a bactericide for crops by two U.S. scientists.

Plastics for Motor Parts

Plastics that look and act like expanded metal are being developed by a British company for electric motor guards, radio grilles, battery separates, and a host of other applications. The standard material ranges in mesh sizes from .75 mm to 1.25 cm and, in most cases, is expected to cost considerably less than comparable steel sheets. *Expanded Metal Co., Burwood House, London S.W.1, England.*

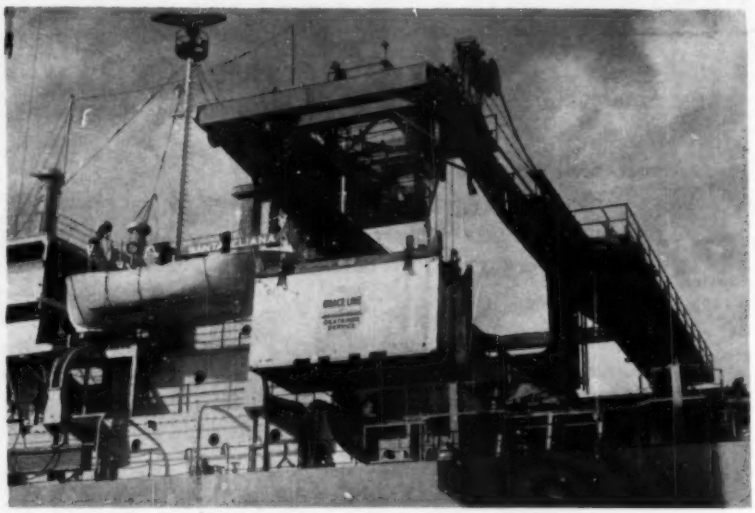
Air Conditioning Unit Runs on Natural Gas

A new air conditioning unit has been developed that uses a radical "free piston" principle. The engine acts both as the refrigerant compressor and the source of power for the compressing action. It consists, essentially, of a mechanically unattached piston—the only moving part—which bounces back and forth in a simple cylinder. A fuel-air mixture burned at the power end drives the piston down, compressing the refrigerant at the other end. On the return, the piston compresses the fuel-air mixture, getting the engine set for the next power stroke.

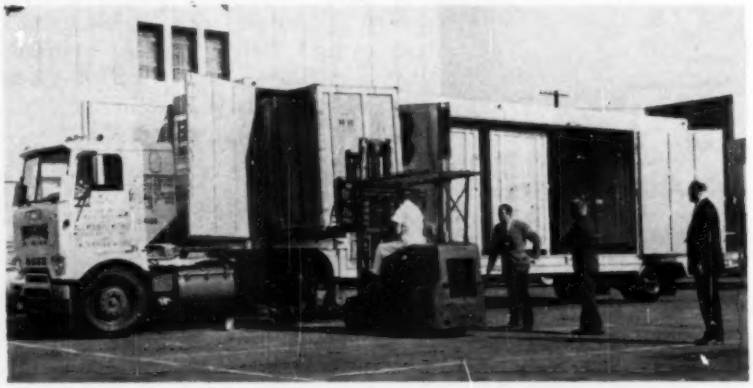
The engine is designed to handle commonly-used refrigerants such as Freon, and can run on gasoline, bottled gas, and natural gas. It is expected to offer distinct advantages in automotive air conditioning. *Robertshaw-Fulton Controls Co., 110 E. Otterman St., Greenburg, Pa., U.S.A.*

Card-Index Desk Calculator

A new decimal calculator, made like a stiff-bound card index, contains the products of all numbers up to 99 x 9,999. The numbers are arranged so that they can be used rapidly in multiplication and division. There are 99 cards, each with a set of precalculated tables. According to the manufacturers, an experienced operator can obtain some answers more quickly than from an electric calculating machine. Metric and non-metric units are converted easily. *Unical AG, Frauenfeld, Switzerland.*



Containers Traveling Over Sea . . .



. . . or on Land Cut Time and Costs

Two new container-carriers illustrate the growing importance of this form of freight transport (IMD, Apr '59). On the **Grace Line's ship Santa Eliana,** the first all-container vessel in U.S. overseas shipping, three huge gantry cranes lift 470-odd "seatainers" aboard, then lower them into cells in the ship's hold. The containers measure 5.1 x 2.4 x 2.5 meters; two can be carried on a trailer truck, and a railroad flat car can take three.

Exporters and ship operators expect the service to cut costs, chiefly through the elimination of numerous handling charges. The ship was redesigned as a container vessel by the New York naval architects *George G. Sharp Inc.* Manufacturers of the seatainers are *Highway Trailer Co., 608 D Ave. NW, Cedar Rapids, Iowa, U.S.A.*

The new moving van has a whole side of doors that not only open wide but also come completely off, along with the side sections between them. With the doors swung back, 1.5 x 2.5 x 2.5-meter containers can be lifted in or out by fork-lift trucks. Two containers can take all the furnishings of a two-bedroom house. With the doors and side sections removed, the 10.2-meter-long van is ready to take large cargoes such as big pieces of machinery.

The company for which the van was custom-built is changing some of its warehouse operations to handle the containers. The vans cost about a third more than conventional ones, but the company expects savings from more efficient use of van space and less handling of each item. Designer of the van is *Aluminum Body Corp., Montebello, Calif., U.S.A.*

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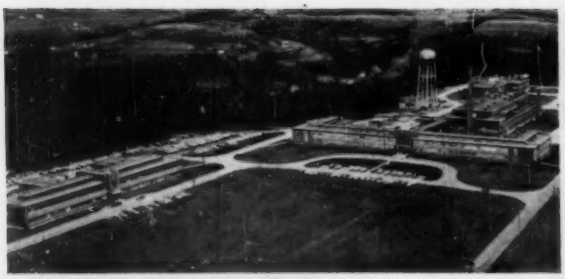

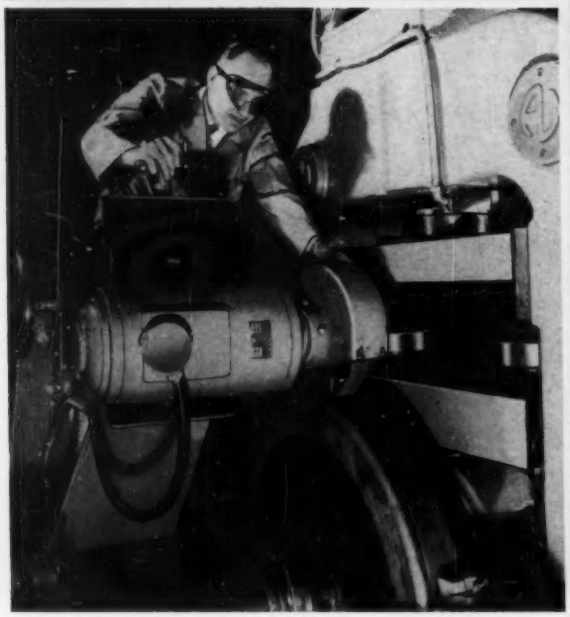

Steel research widens your world...

Everybody likes to look ahead, and that includes the people of United States Steel. In the Monroeville, Pennsylvania, Research Center, as well as in U. S. Steel plants across the U. S. A., projects are under way to develop new steels that will deeply influence future industrial progress around the world.

Among the interesting developments is a missile steel with a tensile strength level of 280,000 pounds per square inch, or six times greater than that of sheet steel used in automobile bodies and fenders.

Such research in the past has yielded specialized steels like USS "T-1"* quenched and tempered steel; USS Cor-Ten* Steel, a high-strength, low-alloy steel; USS Tri-Ten* Steel, which permits weight reduction through great strength and toughness; and USS Man-Ten* Steel, offering high strength and weight reduction to situations calling for moderate forming.

Their importance is already being felt through world-wide application. USS "T-1" Steel, for example, has been specified for major penstock installations in hydroelectric developments in Canada, Norway, Switzerland and India.

To produce more and better steels, U. S. Steel has spent almost four billion dollars since 1945 on improving facilities and adding new ones. It intends going right ahead adding new facilities and improving existing ones.

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*TRADEMARKS

A Marketing Lesson for Marx

In the Soviet Union, marketing efficiency has triumphed over Marxist principles. The lesson is clear not only for the Communists, but for everyone who thinks marketing is wasteful.

TO KARL MARX, marketing was wasteful. The Marxian economic scheme recognized a need only for basic transport, warehousing, and packaging. Marx condemned the middlemen of his day. And he believed that merchandising activities merely raised prices artificially at the expense of the proletariat.

Other philosophers—and even many businessmen—have shared Marx's distrust of marketing. But, startling as it may seem, some of the strongest support for the marketing approach is today coming from the Soviet Union. Writing in *The Harvard Business Review* (Jan-Feb, p79), U. S. economist Marshall Goldman calls developments there "a fascinating chapter in the history of marketing."

• **Two Stages** — To understand marketing in the Soviet Union—or in any developing economy, regardless of the ideology—it is convenient to consider two "stages of growth." In the first stage, the nation's population is largely agricultural and living standards are low. Distribution is more or less limited to simple retailing and some wholesaling.

Then in the second stage, the population begins to enjoy a larger-than-subsistence income. A wider choice of goods appears on the market. Soon, a buyers' market develops; consumers become less predictable; distribution becomes a problem. As a result, marketing activities expand rapidly.

Goldman analyzes these two stages in the Soviet Union, and he concludes that marketing has triumphed over Marxist principles.

I. The First Stage

By 1930, Soviet planners had nationalized all major channels of distribution. Consumer cooperatives, for instance, became the main "retail" outlets. The planners tried desperately to do away with the middleman. But even with the economy the Soviets had then, wholesaling could not be eliminated.

At one point, the planners abolished the "wholesale" depots that serviced the cooperatives; the managers were told to order directly from the factory. But the managers did not like ordering from distant sources, and they were never quite sure which factory to order from. The result: delays in the delivery of goods, accumulating stocks in the factory warehouses.

In another shift, distribution was made the responsibility of the government transportation agency. Again, bad results. Railroad warehouses filled with goods in temporary storage and broken-lot ordering increased—leading to more bookkeeping, poorer service, and no reduction in costs. Despite many such reorganizations, Goldman says, "the work of the abolished wholesaling agency was inevitably shifted to some other unit."

• **Turning Point**—Beyond unsuccessful experiments with distribution, there was little real concern with the marketing function until after the death of Stalin in 1953. For one thing, the Russians were preoccupied with technological problems.

After Stalin's death, the Soviet attitude toward marketing changed: Efficiency began to take precedence over Marxist principles. Goldman cites the problem of farm produce grown by peasants on their small, private plots.

The peasants were encouraged to sell their produce in "farmers' markets" in the cities. But since commission merchants were outlawed, they had to abandon their farming chores to sell their produce.

Recognizing the waste involved, the Soviet government instructed the state cooperatives to sell the peasants' produce on a commission basis, with 50% of the expected price paid in advance, the other 50%—less the commission—paid on the actual sale.

• **Labor Saving** — Meanwhile, marketing efficiency grew with the appearance of self-service selling, automatic vending, and mail-order services. There are now 1,500 stores that use some form of self-service; vending machines dispense everything from perfume to beer; over 5,000 different articles are sold through the mail.

II. The Second Stage

While the Russians have not reached the advanced phase of a buyers' market, Goldman sees definite signs that they are experiencing "second-stage" problems. As evidence, he cites frequent complaints in the newspapers about excessive inventories. Watches, for example, seem to be in surplus at all price levels (Khrushchev gave away watches on his American trip last year).

More typically, however, Soviet affluence extends only to the more expensive models of television sets, radios, bicycles, hunting equipment, cameras, etc. And since only a relatively few upper-income families can afford these items, something must be done to widen the market.

The solution so far seems to be something equivalent to sales-promotion campaigns, with all the familiar devices used in capitalist nations. These devices include:

• **Price Reductions**—There were annual price reductions for many goods from 1947 to 1954, but these reductions were simply a substitute for wage increases; goods were still in short supply.

After 1954, price reductions became selective and, significantly, they were limited to goods in excess supply. In 1957, 1958, and 1959, there were successive reductions on the higher-priced television sets, cameras, radios, and watches.

• **Advertising**—The range of advertising activities now includes newspaper advertising, billboard display, advertising conferences,

WORLD YALE & TOWNE REPORT

MORE USABLE SPACE, LESS HANDLING TIME WITH YALE LIFT TRUCKS

GLASGOW—To use every inch of a warehouse at maximum efficiency, a Yale Electric Truck stacks barrels of butter 14 feet high. Long life and economy of operation are important features of these versatile Yale electric trucks. In capacities from 1,000 to 200,000 lbs.

YALE WORKSAVER MAKES LOADING AND UNLOADING FASTER AND EASIER

WIGAN, ENGLAND—Fast, economical loading of lorries, thereby reducing turn-around time, is a benefit of the compact Yale Worksaver. Here, a forklift Worksaver loads a consignment of bagged fertilizer. Worksavers are available in pallet, platform, fork and tractor models, in capacities up to 7500 lbs. . . . do big truck jobs at small truck cost.

PETROL TRUCKS BY YALE SPEED OPERATIONS "DOWN UNDER"

CHRISTCHURCH, NEW ZEALAND—Handling unwieldy oil drums and stacking them in neat, orderly tiers is quick, easy and economical with a Yale petrol truck. Quality engineering ensures dependable performance, virtually trouble-free service. Yale industrial lift trucks and tractor shovels perform cost-cutting tasks for industries the world over.

- Yale makes the world's most complete line of petrol, LP-gas, electric, diesel and hand lift trucks.
- All Yale industrial lift trucks are uniformly high in quality, wherever manufactured.
- All Yale equipment available in currencies of the free world.
- For further information contact your Yale sales and service representative—located in principal cities of the world.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS
YALE & TOWNE

The Yale & Towne Manufacturing Company, Chrysler Building, New York, U.S.A.
Manufacturing Plants: Velbert Rhld., Germany • Wednesfield Staffs, England • Phila., Pa., U.S.A.
Licensed Manufacturer: Fenwick—Saint-Ouen, Seine, France • Milan, Italy • Barcelona, Spain

and courses in advertising techniques. Official agencies prepare advertising copy, suggest window display ideas, and coordinate outdoor advertising—for a consulting fee, of course.

While much of the advertising is designed to provide information, it shows signs of becoming competitive. Both of Moscow's leading department stores now claim the "best in service." The "freshest" fish is sold by two of the biggest fish stores. And competing claims are beginning to appear for radio and television brand names.

• **Product Differentiation**—Where there is advertising, there is likely to be product differentiation. Russian officials have explained that the added expense of brands and advertising is more than made up by their help in "preselling" the goods in self-service stores.

Another reason for more models and brands, according to Goldman, is that officials can quickly locate the source of poor-quality products, and the factories have a tangible incentive to maintain high quality.

• **Trade Fairs**—As the choice to the consumer has multiplied, inventory has become a serious problem for both wholesale and retail outlets. As a marketing aid, middlemen offices have been established to recirculate surplus stocks. One of the most successful mediums has been special trade fairs, which have the traditional function of bringing together buyers and sellers. And fresh production, as well as surplus stocks, is now being channelled through competitive outlets such as trade fairs.

• **Installment Credit**—Last August, a wondrous-sounding announcement appeared in Sovyetskaya Rossiya: *"This department store sells on installment. . . .* Such an advertisement will soon be seen in many city store windows. For sale on credit! How magnificent!"

With sales terms of 25% down and six months to pay (at an interest cost of 1% to 2%), Soviet consumers are now able to buy more of the products in oversupply. And it is Goldman's contention that the oversupply of goods forced the Soviets to adopt credit, and the other un-Marxian devices, to widen the market. ●

One Warehouse Serves U. S. With Deliveries Made by Air

1. Data machines process an order for 5,000 radio tubes in 17 minutes.

2. Order pickers select tubes from racks and pack cartons in 90 minutes.

3. Shipment, at airport in 45 minutes, goes out by jet cargoplane.

AIRFREIGHT has won another convert. Raytheon Manufacturing Co., an electronics concern, has closed its regional warehouses in the U.S.A. and now supplies distributors across the nation from its factory warehouse—located on the East Coast near Boston. Even shipments to California, 8,000 kilometers away, are delivered routinely in 24 hours, or up to 13 days faster than surface shipment.

• **Net Saving** — Airfreight is costly, of course. But Raytheon expects to realize a net saving of well over $1-million a year. Branch warehouses were expensive—with their operating overhead, inventory carrying costs, handling losses, and "back-ordering" (orders passed on to the factory warehouse). And so is the operating capital tied up in "dead" in-transit inventory and warehouse duplications.

Raytheon worked out its airfreight schedule with the help of American Airlines. Airline officials say regular airfreight delivery should be considered if a product meets four specifications: It is a stock item; its value—packaged for shipment—is over $1 a pound; surface delivery takes more than 24 hours; and the product is manufactured in one location. Special factors, such as perishability, can also be decisive.

• **Data Processing** — Raytheon's fast-delivery system also depends on integrated order processing (pictures). District sales offices, and distributors with sales of over $200,000 a year, are equipped with Tel-O-Riginator machines, which transmit coded orders over a teletype circuit directly to an electronic data-processing center at the warehouse.

The data-processing equipment turns out instructions for the "order pickers," punches inventory cards, and writes billing papers. A typical order for 5,000 radio tubes of various types is processed in 17 minutes, assembled in 90 minutes, and arrives at the Boston airport 45 minutes later. Raytheon's shipments are packed in ordinary corrugated cartons. (*Factory, Jan, p221*)

VALVES, DRIERS, STRAINERS FOR REFRIGERATION AND AIR CONDITIONING

Since 1914 Henry air conditioning and refrigeration valves and accessories have been recognized for their complete on-the-job satisfaction throughout the world. Available in a wide variety of sizes and types for refrigerants 12 and 22, etc. and for ammonia service.

Write for latest catalogs and prices.

HENRY VALVE CO.

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Cable: HEVALCO,
Melrose Park, Illinois

VALVES, DRIERS, STRAINERS, AND ACCESSORIES FOR REFRIGERATION, AIR-CONDITIONING, AND INDUSTRIAL APPLICATIONS

The Trend Is to Professional

Good managers can be found the world over. Now the problem is to develop more of them to meet the needs of expanding industry.

THE GREATEST FORCE for change in today's world, according to an important new study of international management, is industrialization itself. Industrial growth forces management to become more efficient. The result will be nothing less than "the ultimate triumph of professional management."

This is the conclusion of two of the U. S. A.'s top students of management, Frederick Harbison of Princeton University and Charles A. Myers of the Massachusetts Institute of Technology. They are members of a research group, called Inter-University Study, that is making a broad comparative analysis of management conditions around the world. As coordinators of the project, Harbison and Myers are working on a "global concept" of management development.

Management in the Industrial World (McGraw-Hill, 1959) contains their first attempt to formulate universal principles. But more than that, their book is a passionate plea for the world to speed up the management evolution.

Harbison and Myers conceive of management as a national resource that is at least as vital to industrial growth as labor, capital, and natural resources. And in management they include all the "high-talent" manpower needed to run the industrial machine. The "organization builder" is only the star performer.

I. Better Management

Productivity depends on the quality and depth of management. And while Harbison and Myers found a serious lack of depth in many parts of the world, they found evidence of good management everywhere. In one Egyptian plant, for instance, they found low productivity in every department except one; but in this department, the workers "showed a rhythm and pace of work equal to that in the best American factories." The explanation, Harbison and Myers say, must lie in the men who plan or supervise this department.

The changes that industrial growth brings can be seen more clearly in a country further along the industrial road. In Sweden, for instance, the trend from family-dominated management toward professionalism is unmistakable. And Swedish experience demonstrates that as a country moves toward industrial maturity, "it broadens the scope of the managerial function, develops a managerial structure in depth, and opens the path to the management elite to an ever-widening segment of society."

• **Pressure on Family**—Family-managed businesses are not necessarily on the downgrade, however. Their troubles come as they expand, as the number of trained professionals are added to the organization. Members of the family simply find it increasingly difficult to control the management.

There comes a point, Harbison and Myers argue, where the family interests are better served by turning over the operation to a competent professional manager. This is what has happened in the United States, and it is happening in Britain and Germany—and even France and Italy, both of which countries are strongholds of family-owned enterprise.

In underdeveloped areas, management is becoming less family-oriented for another reason. In the early stages of growth, a family provides a basis for molding the obedience and loyalty that is the first requirement of an organization. But gradually, the "prime movers" of industry discover that the stress on loyalty is at the expense of efficiency. And sooner or later, the standard for access to management becomes "competence rather than connections."

II. Attack on the Crown

Harbison and Myers save their venom for what they call the "sovereign ruler" type of manager, who represents "the most primitive system of authority." If this management persists in a nation, they warn, "it will retard and eventually strangle successful industrialization." And the world is to be full of managers who rule with an iron hand.

The authors give a classic description of what happens under the sovereign ruler: "[He] is invariably suspicious of his subordinates and complains [they] lack initiative, imagination, or plain common sense . . . [He] delegates too little, does too much himself, and thus has little time for effective organization building or for creative thinking."

As a consequence, "this type of management is likely to be defensive, enervated, and static. It breathes only at the top, and when the top disappears, the organization either collapses or must be completely rebuilt."

• **Forces at Work** — Taking a cynical view of human nature, Harbison and Myers comment that management in general seeks all the "rulemaking power" it can get. Thus, an authoritarian philosophy is a natural choice. But pressures from a variety of sources are forcing management to change its ways.

There is a new emphasis on human dignity around the world; the expectations of workers are rising; their political power is increasing. Labor unions and labor legislation are restricting management's power to make the rules.

Not the least of the pressures is the example set by progressive managements. Management organizations are in the forefront of the effort to change executive thinking. As examples, the authors cite

Managers

Chile's ICARE and the All-India Management Association as organizations that have risen to challenge the "old order."

III. The Compromise

Management must adjust to changes in its environment. And the most typical compromise today is what Harbison and Myers call "constitutional" management.

Under constitutional management, policies concerned with work rules are spelled out. Grievance procedures are specific, with workers having the right to take grievances to successive levels of management. Frequently, there is a provision for arbitration, either voluntary (as in Sweden) or compulsory (as in Australia and New Zealand).

As a result, personnel staff services expand; and there is usually a recognition of line management's responsibility for labor relations. Attention then is called to the need for management development.

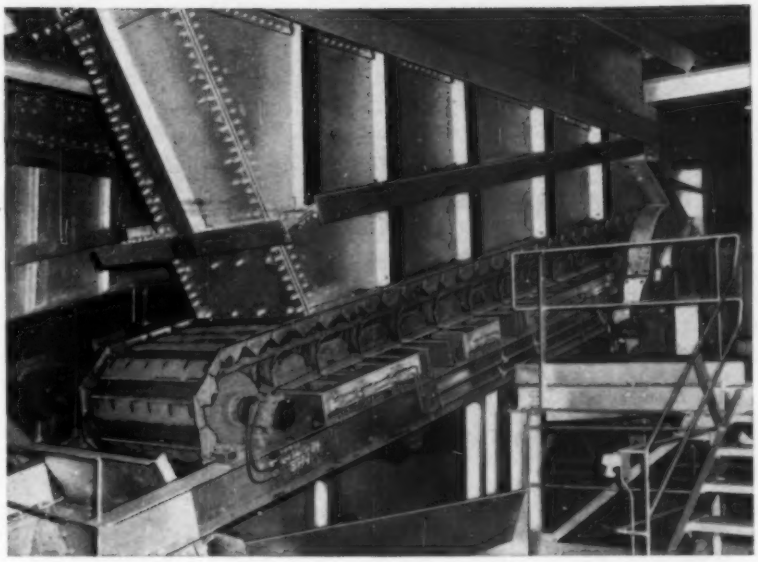
For large companies, of course, there is also a trend toward decentralized administration with centralized control. Apostles of this concept include General Motors and General Electric Corp., Unilever, Imperial Chemical Industries, and "the great Indian managing agency," Tata Ltd. It is also the official administrative policy for factories in the Soviet Union.

IV. Paternalism

The authors are skeptical of paternalism, but report that the tradition is strongly rooted in Japanese thinking, still strong in France and Italy, and it is almost impossible for a management not to be paternalistic in the underdeveloped countries. On the other hand, the soil is not fertile for paternalism in Sweden, Britain, and the United States.

Their skepticism is based on their observation that paternalism does not always mean a genuine concern for the welfare of workers. It can also be used to "buy" workers, which the authors condemn. ●

STEPHENS-ADAMSON



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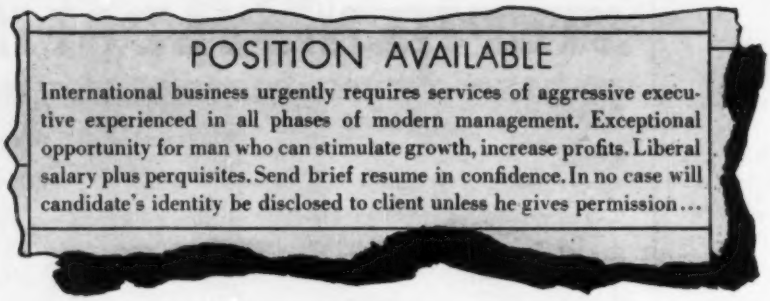
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International business urgently requires services of aggressive executive experienced in all phases of modern management. Exceptional opportunity for man who can stimulate growth, increase profits. Liberal salary plus perquisites. Send brief resume in confidence. In no case will candidate's identity be disclosed to client unless he gives permission...

Recruiting: Deft, Discreet, and Booming

IF YOU HAVE QUALIFICATIONS such as the ones called for in the sample advertisement above, an executive recruiter may be about to whisper discreetly in your ear. His sole job is to uncover executive talent for his corporate clients. And the worldwide shortage of executives makes it even more likely that one of this fast-multiplying breed of management middlemen may — someday—contact you.

The depressed 1930s and World War II interfered with the development of executive talent. Even after the war, many companies neglected to nurture young managers in their own organizations. Meanwhile, surging business expansion has created hundreds of thousands of new executive positions.

I. Demand > Supply

As a result, demand far exceeds supply. Many companies find it virtually impossible to fill management posts from within their own ranks. So each day more companies are turning to the independent executive recruiter, or "search" firm.

They often do it with reluctance. It is an admission that management is not able to "promote from within". Furthermore, recruiting is a controversial business. Firms losing executives to the advances of the recruiter mutter about "piracy"; employment agencies resent this invasion of their field; other critics charge that the recruiters merely redistribute talent instead of creating it.

• **Benefits** — The recruiters say "Nonsense." Everybody benefits, they say, when an ethical search firm seeks out an executive and puts him in a bigger job. The executive gets a chance to show his mettle. The company losing an executive gets a chance to bring up its younger men.

Proof of effectiveness, say the recruiters, lies in the fast growth of the business. Today U. S. companies are probably making the greatest use of the specialized recruiting firm. But the management manpower shortage is critical everywhere, and executive search firms are springing up in other nations—especially in Europe. Among them are branches or agencies of the American recruiters who are hurrying to set up shop overseas.

Part of the difficulty in measuring the impact of independent recruiting firms stems from the problem of defining an executive search firm. The process of bringing companies and executives together is complex—and a lot of people get involved.

The search firms differ from employment agencies mainly by the type of jobs they take on and by the effort they put into the search. Recruiters usually handle only top and upper-middle management positions. The average search lasts one to three months, but a difficult one can easily run a year or more.

• **Professional** — Employment agencies are paid on a contingency basis; they collect only if they complete the deal. But recruiters are reimbursed for "professional services" even if the searchers cannot find a satisfactory man. In general, clients pay search firms the equivalent of 20% to 25% of the new executive's first annual salary, while employment agencies earn only 5%-10%. The job candidate never pays.

General management consultants also do recruiting. But some are dropping their search activities, worried that their clients might question their objectivity in recommending organizational changes. A number of other consultants—in marketing or engineering—sometimes regard recruiting as an important service to their clients.

II. Methods

How the larger, specialized American recruiting firms work was the subject of a recent article in *Business Week*.

In December, eight New York recruiters banded together to form an Association of Executive Recruiting Consultants, to help win recognition for their profession. And they drew up a code to establish ethical standards for executive search. The code stipulates, among other things, that recruiters should obtain company clients primarily by word-of-mouth recommendation, not by advertising.

Once the recruiter has been retained by a client (an "engagement"), he usually spends several days getting acquainted with the company. He then goes over the job's specifications with the top company executives. Invariably, this involves some organization analysis, particularly with the smaller clients who are sometimes not sure just what they want. This situation sometimes requires an overhaul of compensation policies.

• **Combing**—Then the recruiter turns to his files and reference books. These are combed thoroughly to yield "sources"—executives, professors, and personal friends who are likely to know a man like the one the recruiter is looking for.

From them, the recruiter collects recommendations. The files

CONTACT!

Has your production manager an urgent query?
— You can answer it while you are on the road.
Do you want that urgent quotation sent off?
—You can instruct your secretary while you are driving.
Do you want a van to make an urgent call?
—It can be arranged in minutes although they are all on the road.

With your cars and lorries fitted with Pye Radio Telephones you are in control.

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PAINT, VARNISH, AND PLASTIC—Naphthenate Driers and other Metallic Soaps (Linoresinates, Octasols, Resinates, Soyates)—Cadmium Lithopones—Pigments—CP Cadmium Pigments—Mercury Cadmium Pigments—Antimony Oxide—Organic and Inorganic Dry Colors and Dispersions—Vinyl Stabilizers.

ELECTROPLATING—Nickel Salts: Sulfate, Chloride, and Carbonate—Nickel Anodes—Cadmium Oxide—Bright Nickel Electroplating Processes.

CATALYTIC PROCESSING—Preformed Catalysts—Boron Trifluoride—Hydrofluoric Acid—Nickel Formate—Rufert Nickel Catalyst Flakes (for vegetable oil hydrogenation).

MISCELLANEOUS—Hydrofluoric Acid—Ammonium Bifluoride—Miscellaneous Fluorides—Copper Chloride—Copper Oxide—Copper Naphthenate—Cobalt Sulfate and Carbonate—Manganese Carbonate—Cadmium Oxide—Synthetic Crystals (Optical, Scintillation, Electronic).

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Feed Stuff, Mineral Feed
Fertilizer
Food
Glass
Insecticide and Fungicide
Laundry
Leather
Lithographing
Linoleum and Floor Covering
Lubricant
Match
Metallurgical
Metal Working
Oil Cloth
Optical
Paint, Varnish and Lacquer
Paper
Petroleum
Pharmaceutical
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are used chiefly to obtain information sources. Few of the executives found by U.S. search firms are listed in the files; even fewer are those who sought out the recruiter—although on occasion the recruiter will use appropriate classified advertisements. Most of the U.S. consultants interviewed by *Business Week* stated that only 1% to 10% of the men recruited were unemployed or job-hunting at the time.

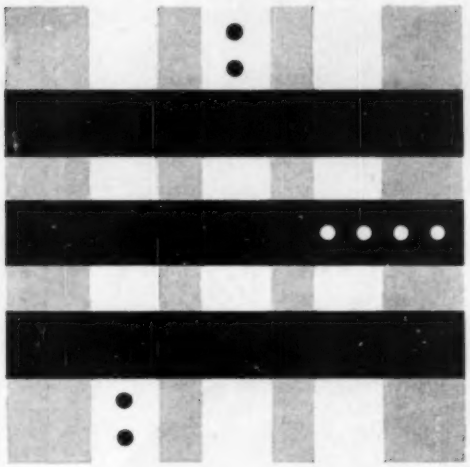
One reason may be that clients prefer hiring an executive who is "hard to get"; someone who has to be "dug out" by hard research. Also, it is because a search engagement and a man who meets all the qualifications rarely come together at the same time.

• **Approach**—In many cases, potential candidates are approached initially by telephone, personal contacts, or by correspondence. The better ones are interviewed and thoroughly investigated. (They are called "suspects" when their names first come up, "prospects" if their qualifications look good, and "candidates" if they pass the final screening.)

The candidate seldom is told the name of the client company until the search firm is ready to introduce him as a candidate. Sources are also kept discreetly behind the scenes. The anonymity of the hirer is the search firm's chief selling point. Companies can sound out hundreds of prospects without informing competitors, customers, or even their own staff.

• **Candid**—The fact that both the client and the candidate are usually franker with the middleman than they would be with each other is one of the main inducements offered by recruiters. Other advantages might include objectivity, thorough coverage of the field, important savings of top executive time. Recruiters insist that it is less expensive in the long run to use them than to try and do it yourself.

The best clients of search firms here are companies that have just been formed or have recently decentralized, that are growing fast, and diversifying into new products or markets. Even established companies with elaborate management development programs occasionally turn to the "executive market". (*Business Week, Dec* 5, *p* 142)



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Independent of whatever working principle is used, the speed and efficiency you demand of your organization is only possible with the aid of modern office machines.
Addo brings you office machines, for simple or complicated calculation; also accounting systems for integrated or electronic data processing.
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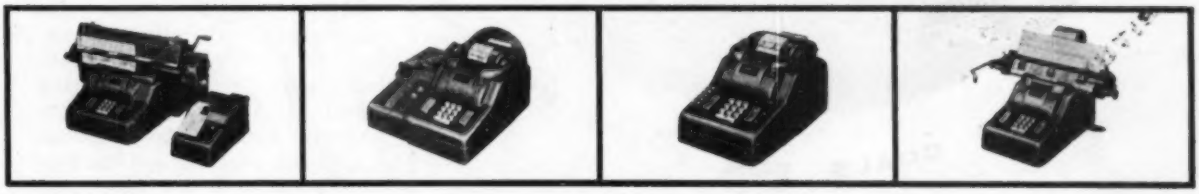

Addo-X Model 7341-80 dual register book-keeping machine with automatic card insertion, which locates precisely the correct writing line. Numerous automatic functions make book-keeping highly accurate and fast, furthermore, reducing the manual work to a minimum.

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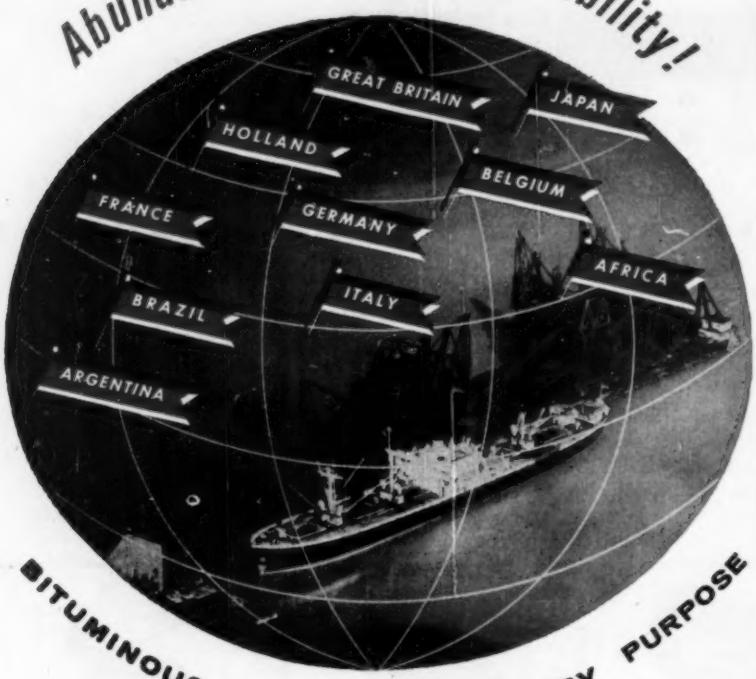

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Constantly doing things—better!

No-Strike Company...

. . . in a strike-ridden industry. Here is how Britain's Vauxhall does it.

LABOR PEACE is not the ultimate test of a management's achievement. But when a company is just as efficient and profit-minded as its competitors, but alone escapes persistent labor troubles in its industry, there is good reason to take a close look at how and why.

This is what brought the labor relations program of Vauxhall, the British automobile manufacturer, to the attention of *The Economist*. While the contrast with the other motor makers should not be drawn too sharply (Vauxhall pays the highest wages in the "overgrown country town" of Luton, while the others have stiff wage competition in the industrial centers), Vauxhall's record is "sufficiently remarkable to deserve study."

There are four factors that distinguish Vauxhall's labor relations.

• **Attention**—Many firms give the impression that they concentrate on technology and "leave their labor relations to string along." At Vauxhall, the deputy chairman regards labor relations as his main concern, and the personnel manager is "well integrated into the decision-making process".

• **Only Two Unions**—The second factor is the absence of inter-union quarrelling. In contrast to the 22 trade unions recognized by Ford and British Motor Corp., *The Economist* notes that Vauxhall "has managed to get into the position of recognizing only two main unions." The workers seem to be happy with the situation. Many of the newcomers have little or no union background, and any general union seems good enough for them (the Amalgamated Engineering Union has proved the main choice).

• **No Bonuses**—In 1956, Vauxhall decided that bonus incentives were no longer applicable to a mechanized industry. After quieting the fears of the labor unions, Vauxhall consolidated all earnings into general time rates. As a re-

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All clean in the kitchen

Even more important than the coconut icing on tongue-tempting cakes is the cleanliness of the kitchens in which they are made. For this a powerful, effective detergent is needed—Teepol, for example, one of the world's most widely used trade and industrial cleaning agents. A very versatile performer wherever water is used, Teepol's surface-active, wetting and dispersing properties make it a part of the industrial process in industries as diverse as paints, rubber, leather, furs, textiles, engineering and mining.

Extremely economical in use, Teepol is immediately soluble, in hard water as well as soft, and is effective even in low concentrations. If large-scale cleaning is among your responsibilities, if you need surface-active agents for industrial processes, look to Teepol—and to Nonidet, another Shell-made detergent. And—for *making* detergents—Dobane detergent alkylate, a chemical intermediate used in many of the well-known domestic powders and liquids. Shell manufacture not only detergents but a range of chemicals for every industrial use; chemicals that have a part in virtually every manufacture . . . everywhere.

Shell Detergents

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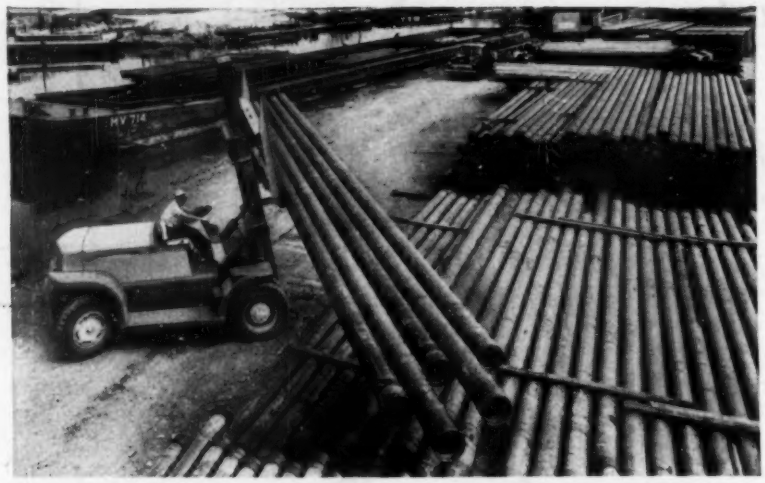

. . . of heavy, bulky oil-field pipe

Moving this load of 50-ft pipe lengths looks tricky . . . and it is. Yet, increasing oil field demands require faster and faster handling. Thus, the speed and unusual stability of this big new CLARK fork lift truck have been extremely important to its Houston owners. Their one truck alone handles millions of tons of pipe on the move from barge unloading point to trucks bound for drilling and pipeline sites all over Southern and Southwestern United States.

. . . or hub-deep rain-soaked muck

This is a job the Indiana quarry owner frankly didn't believe could be handled by *any* machine other than a long-boom dragline. It took an on-the-job tryout to convince him a MICHIGAN Tractor Shovel could work efficiently even in hub-deep mud. Today, whenever mud hampers drilling, one of his *four* Michigans cleans the area in a few minutes. Outdated equipment has been retired, and savings passed along to sand and gravel customers in terms of lower prices.

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Construction • Material Handling • Truck Trailer Equipment

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sult, earnings do not fluctuate with the state of business. This means that labor costs are higher during periods of recession; but, more important, earnings are the same during "boom" periods as during slack periods. And controversy over "boom-level" wages has caused much of the recent labor troubles for the other motor makers. Vauxhall has had no "slow-downs" during peak production periods.

• **Consultation**—The fourth, and (according to *The Economist*) perhaps the crucial feature of Vauxhall's labor relations, is its treatment of shop stewards. In contrast to some of the other motor manufacturers, where shop steward-management committees have been disruptive, Vauxhall has been able to establish a balance of power of sorts with the union stewards.

Vauxhall's main organ for consultation is a 27-member Management Advisory Committee which has 21 worker representatives, six management representatives—five of whom are directors. Worker representatives are usually shop stewards, but they must maintain their "constituency" through fiercely-contested elections (which are held on company time). Term of office is three years.

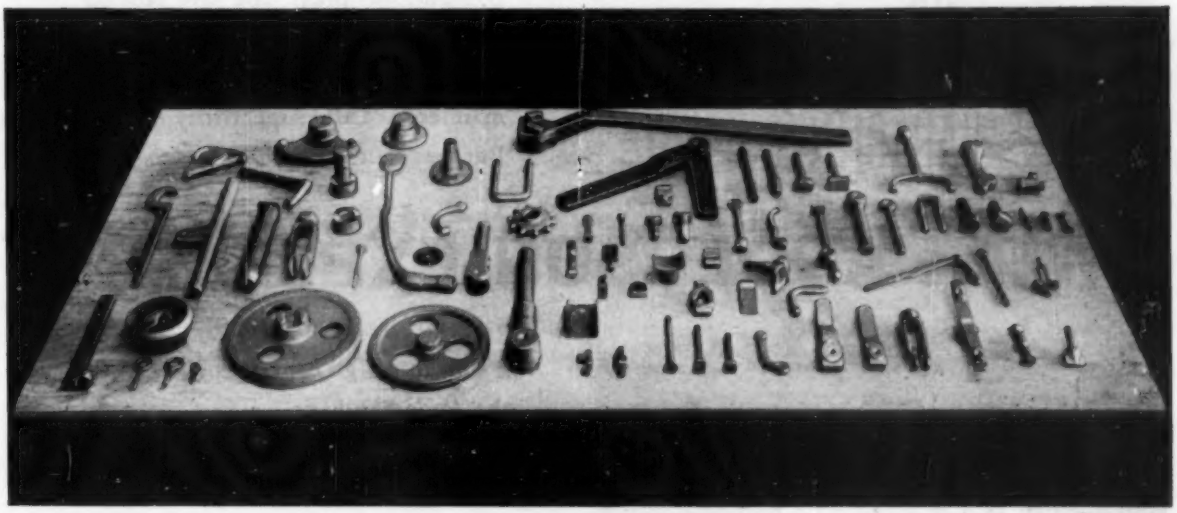
The committee discusses production matters, suggestions, apprentice training, safety, pensions, profit sharing—"all the normal staples of consultation, but at an abnormally high level," in the words of *The Economist*. Only wage discussions are taboo; these are the prerogative of the top local union officials. Vauxhall has not tried to "divide and conquer" the labor unions.

There is also a grading appeals committee to handle complaints about job appraisals, either the initial grading or any changes that result from new production techniques. Committee experts make a recommendation on the grading, a specific "pass or fail" recommendation. But the appeals committee, like the advisory committee, does not have any ultimate power. "With ratings or almost everything else," concludes *The Economist*, "management can say the final word, after listening to the wishes of the men." (*The Economist, Jan 2, p 13*)

200 Different Parts Heated for Forging-

Better, Faster and at Much Lower Cost

with TOCCO Induction Heating*



• When progressive production people at General Railway Signal Company installed a 200 kw, 3000 cycle TOCCO machine, they were able to eliminate 7 slot-type oil-fired furnaces and produce better forging than ever before—at substantially lower costs.

Cost Down—Fuel costs have been reduced from $15.26 to $1.60 per hour with TOCCO. Expensive furnace lining maintenance has been eliminated, and straightening and reheating operations formerly required are no longer necessary.

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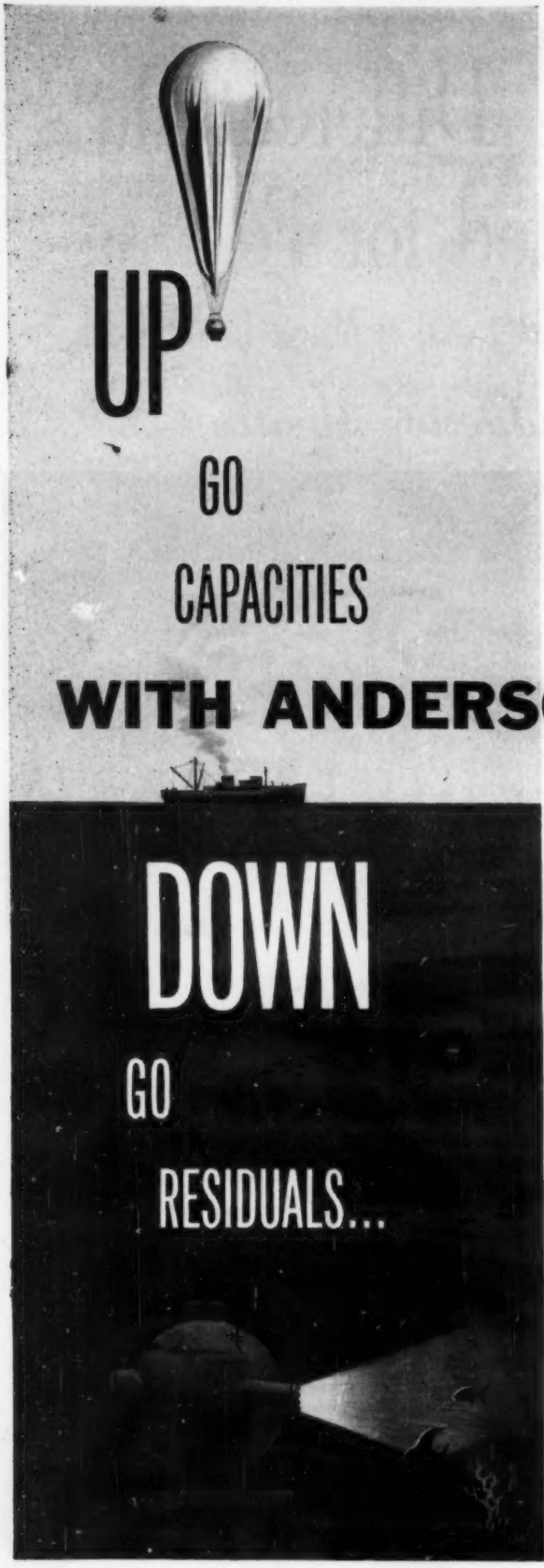

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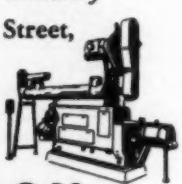


ANDERSON

Only Anderson Makes Expellers!

Forecast of Accounts Receivable				
Period and Month		Forecast Balance	Actual Balance	Difference (over) under
Prior Year	Dec 1958	38,000	40,000	2,000
Current	Jan	40,000	40,000	-
	Feb	40,000	39,000	(1,000)
Months (1959)	Sept	46,000	45,000	(1,000)
	Oct	45,000	46,000	1,000
	Nov	45,000	47,000	2,000
	Dec	46,000		
Into the Future	Dec 1960	50,000		
	Dec 1961	55,000		
	Dec 1962	60,000		

Ledger cards for all major financial items make a routine out of . . .

Balance Sheet Forecasts

FINANCIAL FORECASTING, long a routine operation in the most progressive companies, is being taken up by managers everywhere. And for obvious reasons:

Financial forecasts can lead to greater efficiency, desirable at any time. And with the present worldwide trend toward rising costs of money and credit (IMD—Feb, p1), it could spell the difference between profit and loss.

Recognizing this, financial executives are striving to expand the range of financial forecasting, making it more accurate and changing it from a special, once-a-year function to a continuing one.

• **For example**—Take the case of the U.S.A.'s Kimble Glass Co. This company has for some time forecast its profit ratio to sales, and its probable cash flow (that is, profit after taxes plus depreciation charges on fixed assets) from data based on historical levels of activity. But because of rising interest rates, management needed more accuracy in its cash-flow forecasts.

Cash-flow forecasts serve not only as a guide to a company's need for operating capital, but they can also help to cut costs and generate profits. When forecasting points to a cash surplus, management can consider investing in the short-term money market; when a cash shortage is predicted, management can start negotiating for a loan.

• **Sophisticated Approach** — In setting up a procedure to forecast cash flow—which involves changes in asset and liability balances—Kimble noticed that the various work sheets it was using were evolving into a rough balance sheet. The result is "balance sheet forecasting."

Curtis J. Blecke, Kimble's financial analyst (attached to the controller's staff), described the technique in a recent issue of *The Controller* magazine. It is "much more sophisticated" than Kimble's old method, he says.

Soon after Kimble started forecasting all its major balance sheet items, management recognized that here was more than just a tool for accurate forecasts of cash requirements. Using the same data, it now forecasts return on investment for its gross assets and for proposed capital projects, along with the "pay-back" period and savings.

• **Routine**—In the past, Kimble's forecasting was done almost as a research project by the controller's staff. Today, information that affects the balance sheet, such as inventory changes and capital expense, is reported by operating managers as a routine duty.

To make forecasting easy, Kimble keeps a ledger card for each major balance sheet item. [Note: The figures in the accompanying chart are fictitious. Kimble Glass is a wholly-owned subsidiary of Owens-Illinois Glass; and while the parent company's financial figures are made public, Kimble's are not.] Forecast figures are entered on these cards, with past comparative figures.

The source of forecasting data varies from company to company, of course. Kimble's system does not do away with any of the tools of the forecaster's art. It is still necessary to take into consideration past patterns, national economic trends, technological developments, and management's judgment.

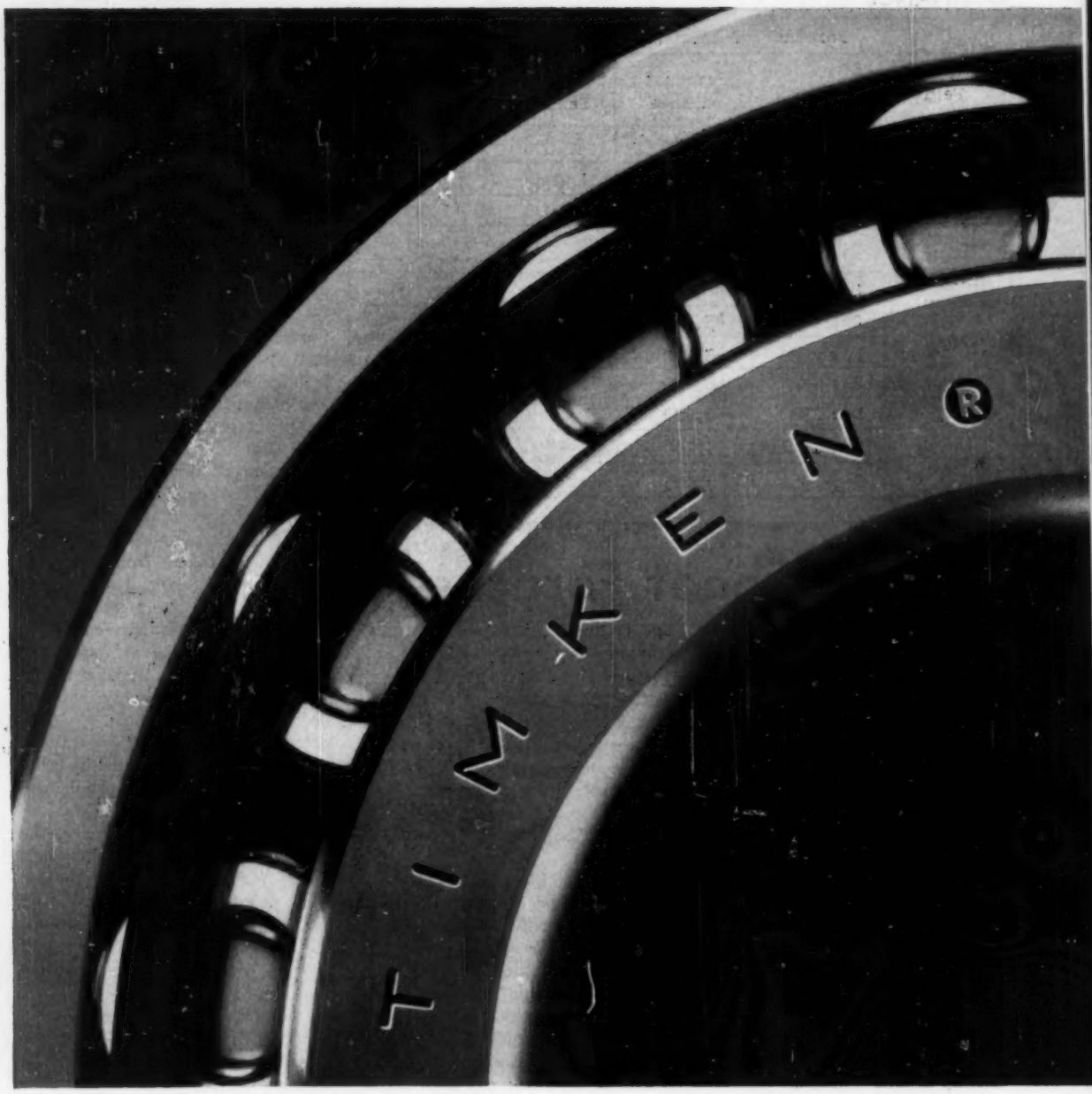
The Accounts Receivable data, for instance, is taken as a percentage ratio of receivables to sales, based on the company's past experience. The percentage used is reviewed every quarter. The actual figures are taken from the company's formal financial statements. What the forecasters look for, of course, are changes between the beginning and ending balance for a given period. When unusual fluctuations turn up, an analysis is attached to the ledger card.

In the case of fixed assets, the ledger cards are supported by a list of proposed capital expenditures, revised every month.

• **Forecast Report**—Once the ledger cards are organized, it is a simple matter to transfer the information to a report form listing the major balance sheet items. Kimble keeps a monthly record; and the year-end forecast is reviewed each month.

For comparison purposes, Kimble pairs the current month's estimates with the actual figures from the same month in the previous year; similarly, the past month's actual figure is paired with the year-ago actual figure. There are three columns for the year-end forecasts: the original estimate, the current estimate, and the year-ago actual.

The cash-flow forecast can be calculated from the balance sheet listings. If a detailed analysis is wanted, a cash-flow work sheet can be prepared by taking the balance sheet items and adjusting them to show "Increase in Accounts Receivable" instead of Accounts Receivable. In this way, detailed comparisons can be made. ●



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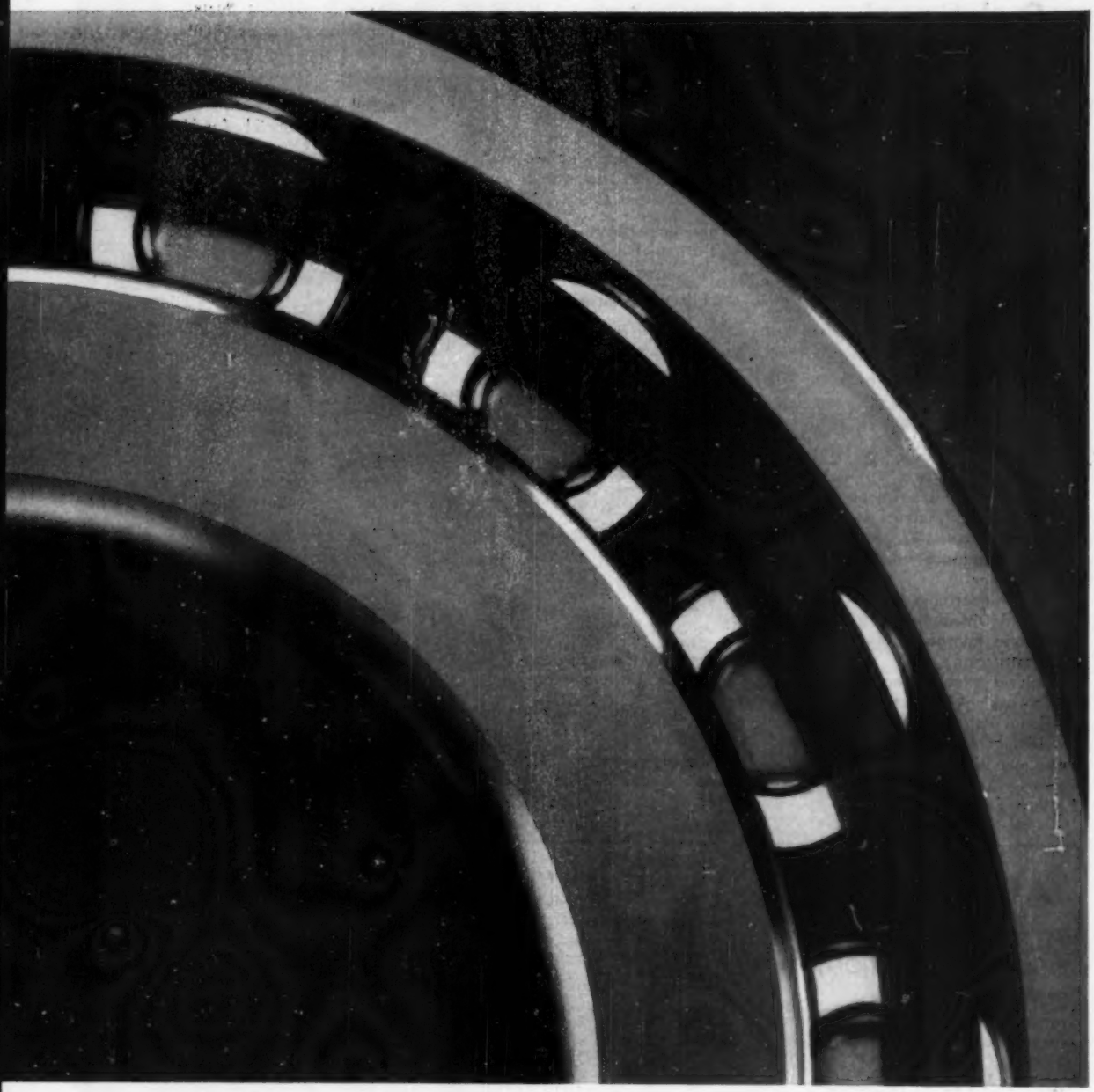

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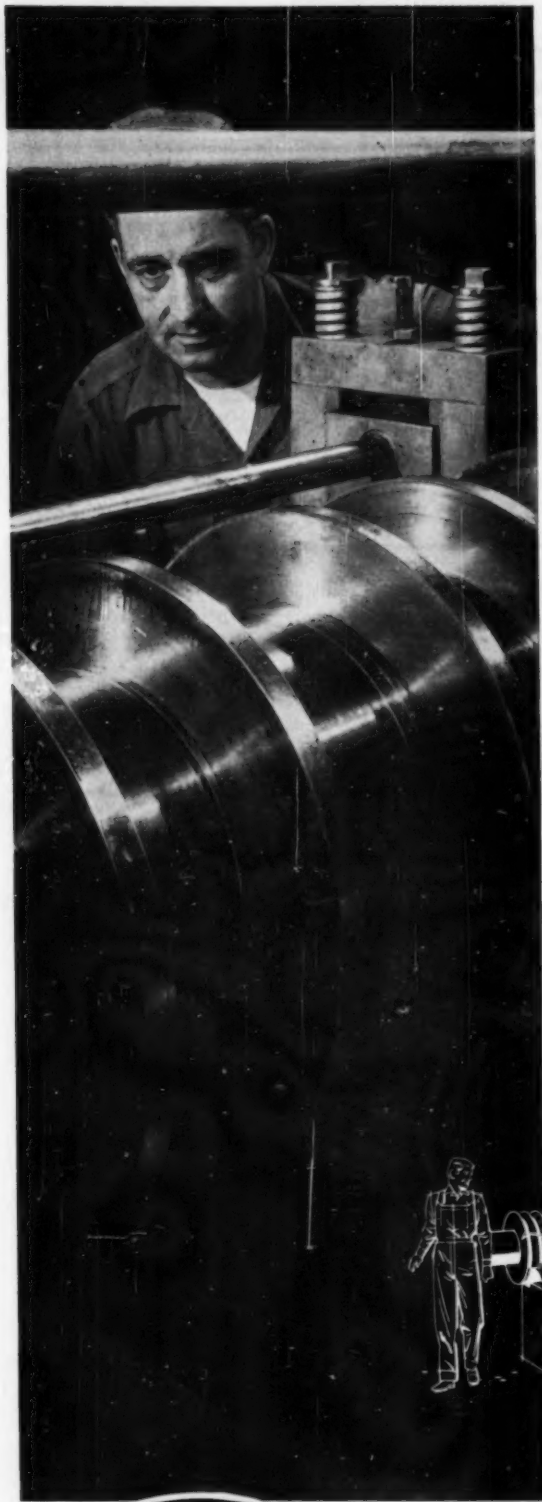

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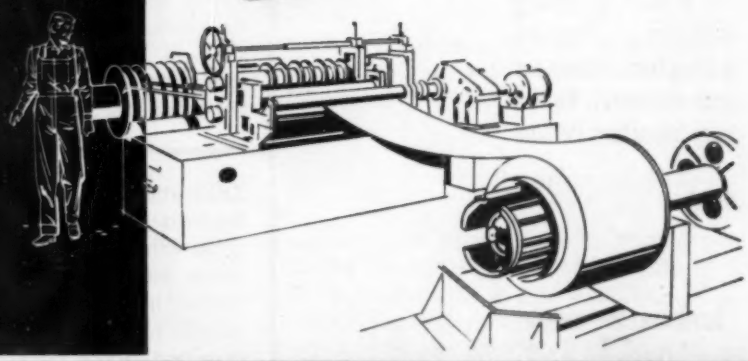

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INTERNATIONAL MANAGEMENT'S

Recommended Reading

The Art of Job-Holding

The Strategy of Earning a Better Living, by Jules Willing, was written for the executive planning his future as well as the younger man starting out. The author studies the years between 25 and 65— gaining experience, becoming entrenched in an occupation, establishing oneself in a company, the "pay-off" years, and—then—retirement. 176 pages, $2.95. (Henry Holt & Co., 383 Madison Ave., New York, N. Y., U. S. A.)

The Art of Promoting

Modern Publicity 1959-60 should prove that promotion can be attractive. The book presents excellent examples of visual advertising from all over the world. 45s or $6.30. (The Studio Ltd., Hulton House, 161-166 Fleet Street, London EC4, England.)

Purchasing and Inventory Control

In Managing the Materials Function, published by the American Management Assn., executives of major U. S. companies describe new tools and techniques used to effect cost reduction and to increase efficiency in purchasing, inventory control, materials handling, and distribution. Relationship of purchasing to engineering is analyzed and suggestions are offered for improvement. $3.75. (American Management Assn., 1515 Broadway, New York 36, N. Y., U. S. A.)

For Your Reference

The International Documents Service Catalog lists—by category—all the publications of the United Nations and its specialized agencies. The Engineer's Bookshelf is a detailed bibliography of technical books for the design engineer. (Both from International Management Digest, 330 W. 42nd Street, New York 36, N. Y., U. S. A.—free as long as our supply lasts.) . . . The Economic Almanac 1960 provides a wealth of statistical information about the U. S. A.: resources, agriculture, labor, banking, finance, national income, manufacturing. There is an international section, too. 673 pages, $7.95. (National Industrial Conference Board, 460 Park Ave., New York 22, N. Y., U. S. A.)

Bulletins from Industry

"Heliweld": This booklet describes a new continuous process for manufacturing large diameter pipe. (International Enterprises, 2 Breite Strasse, Dusseldorf, Germany) . . . How files can be custom-tailored to your office with the use of "Record-Stack" is the subject of illustrated folder—SC818-A. (Remington Rand Intl., 315 Park Ave. South, New York 10, N. Y., U. S. A.) . . . "The Fruehauf General American System," describes a concept of containerization and gives details of the application and advantages of Fruehauf's GATX Container Program. (Fruehauf Trailer Co., Detroit 32, Mich., U. S. A.) Catalog TFG-11-59 will tell you all about two new precision thread and form grinding machines designed for production and toolroom use. (The Sheffield Corp., Dayton 1, Ohio, U. S. A.)

INTERNATIONAL
MANAGEMENT'S

Personal Business

The World of the Camera

"You push the button, we do the rest." This was the charm of the first cameras. Then they became more sophisticated, with varying lens openings, shutter speeds, and the rest. Now the trend is reversed, and automation is again the great cry. Both movie and still cameras are being designed to adjust exposure automatically to the light.

At the same time, films are getting faster, according to a recent article in Popular Photography. You find that black and white film speeds over ASA 1000 are the rule rather than the exception.

Color films are following the same trend. Super Anscochrome film, with its speed of ASA 100, made the first jump in '57, but '59 saw the introduction of Kodak high-speed Ektachrome film with exposure indexes up to 160. Watch out, too, for a new motion picture Kodachrome with a speed of 40 that is rumored to come on the market soon. With faster films, of course, you make the most of available light besides having a longer photographic day outdoors.

Polaroid Corp. of the U. S. A. has not been standing still with its picture-in-a-minute photography. You may already have seen its 3000 Speed Land Picture Roll. This is said to be about 16 times as fast as the previous Polaroid 200 films, and much the same in quality. And the entire industry is eagerly awaiting Polaroid's new "60-second" color film, which should be available in a year or two.

Faster speeds are in turn affecting the flashbulb. If you use the new Polaroid film indoors, for instance, you will need a small 12-volt "wink" lamp to even out the contrast levels (the lamp does away with one-shot flashbulbs). Note, too, the trend toward small flashbulbs. The latest and tiniest: General Electric's zirconium AG-1 bulb (for All Glass).

If movie pictures are your hobby, you'll find more and more gadgets to give your films a professional look. Many amateurs now use "zoom" lenses to get a traveling effect—making the subject grow larger and larger or smaller and smaller. Low-priced cameras also have controls that allow the amateur to fade sequences in and out. Also note the new zoom lens for still cameras—the Voigtlander-Zoomar f/2.8.

This Month's Travel Note

Many businessmen traveling in the States pay a visit to one of the country's health clinics if they feel the need for a good check-up. Probably the best known is the Mayo (Rochester, Minn.). But there are many other good clinics in all sections—in the **Northeast:** Executives Health Examiners (New York City), Pratt Diagnostic Center (Boston); **Southeast:** Dr. Robert Rehm Clinic, Asheville, N. C., Greenbrier Clinic, White Sulphur Springs, W. Va.; **Midwest:** Thompson & Associates, Chicago; **West Coast:** Beverly Hills Clinic, Beverly Hills, and Scripps Clinic, La Jolla, Calif. You can make a one- to five-day stay in comfortable surroundings. At a resort clinic like Greenbrier you have a chance to play golf, too. Cost of the examination itself varies from $75 to $250—plus charges for room, meals, travel. It is best to make your appointment a few weeks in advance.

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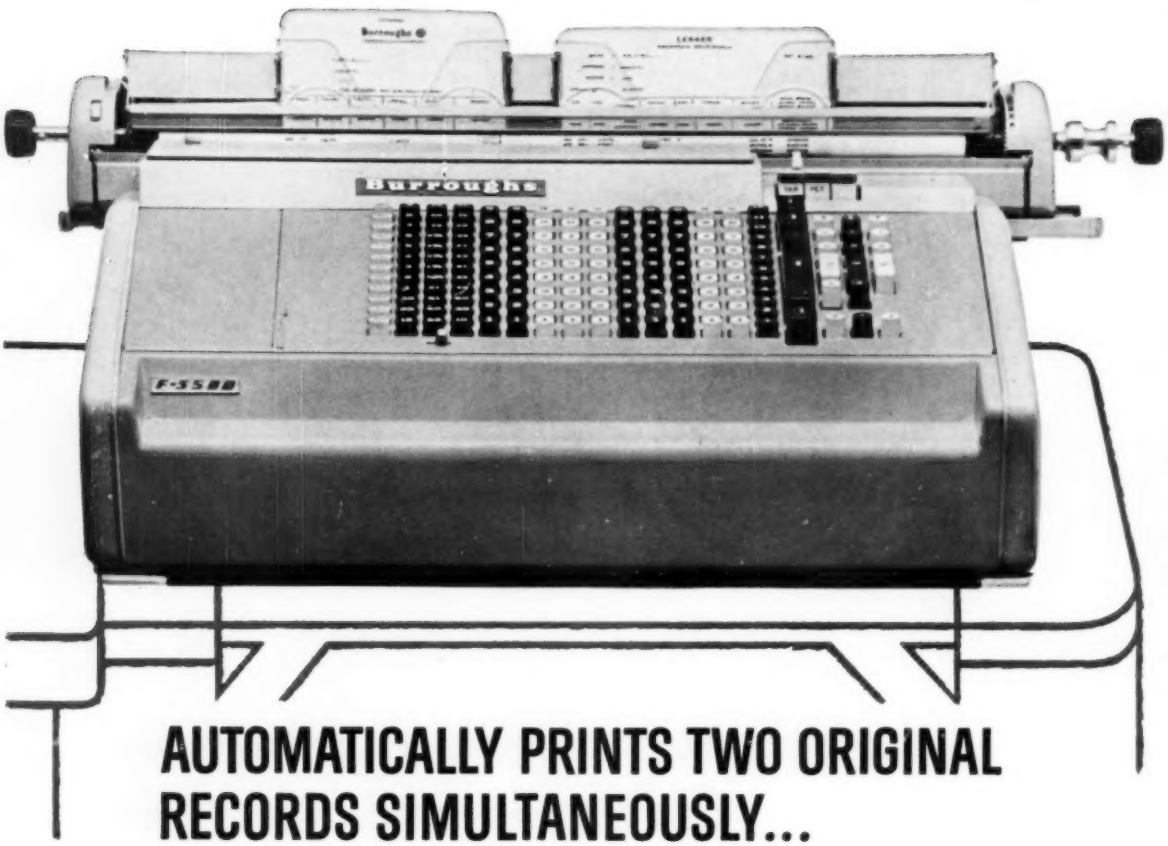

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